

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

JAMES CONTANT, SANDRA LAVENDER,
VICTOR HERNANDEZ, MARTIN-HAN
TRAN, FX PRIMUS LTD., CARLOS
GONZALEZ, UGNIUS MATKUS, CHARLES
G. HITCHCOCK III, JERRY JACOBSON,
TINA PORTER, AND PAUL VERMILLION,
on behalf of themselves and all others similarly
situated,

Plaintiffs,

v.

BANK OF AMERICA CORPORATION;
BANK OF AMERICA, N.A.; MERRILL
LYNCH, PIERCE, FENNER & SMITH INC.;
THE BANK OF TOKYO MITSUBISHI UFJ
LTD.; BARCLAYS BANK PLC; BARCLAYS
CAPITAL INC.; BNP PARIBAS GROUP; BNP
PARIBAS NORTH AMERICA, INC.; BNP
PARIBAS SECURITIES CORP.; BNP
PARIBAS PRIME BROKERAGE, INC.;
CITIGROUP INC.; CITIBANK, N.A.;
CITICORP; CITIGROUP GLOBAL
MARKETS INC.; CREDIT SUISSE GROUP
AG; CREDIT SUISSE AG; CREDIT SUISSE
SECURITIES (USA) LLC; DEUTSCHE BANK
AG; DEUTSCHE BANK SECURITIES INC.;
THE GOLDMAN SACHS GROUP, INC.;
GOLDMAN, SACHS & CO.; HSBC
~~HOLDINGS PLC; HSBC~~ BANK PLC; HSBC
NORTH AMERICA HOLDINGS, INC.; HSBC
BANK USA, N.A.; HSBC SECURITIES (USA)
INC.; JPMORGAN CHASE & CO.;
JPMORGAN CHASE BANK, N.A.; MORGAN
STANLEY; MORGAN STANLEY & CO., LLC;
MORGAN STANLEY & CO.
INTERNATIONAL PLC; RBC CAPITAL
MARKETS LLC; ~~THE~~ ROYAL BANK OF
SCOTLAND ~~GROUP~~ PLC; RBS SECURITIES
INC.; SOCIÉTÉ GÉNÉRALE S.A.;
STANDARD CHARTERED BANK; UBS AG;
UBS GROUP AG; and UBS SECURITIES LLC;

Defendants.

Civil Action No. 17-cv-3139-LGS

[PROPOSED] SECOND
CONSOLIDATED CLASS ACTION
COMPLAINT

JURY TRIAL DEMANDED

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Plaintiffs James Contant, Sandra Lavender, Victor Hernandez, Martin-Han Tran, FX Primus Ltd., Carlos Gonzalez, Ugnius Matkus, Charles G. Hitchcock III, Jerry Jacobson, Tina Porter, and Paul Vermillion (collectively, “Plaintiffs”), on behalf of themselves and the proposed Classes (defined below), make these allegations against Defendants based upon personal knowledge as to matters relating to themselves, and upon information and belief, documents produced in related litigation and government investigations, and the investigations of counsel, including analysis by Plaintiffs’ experts, as to all other matters.

NATURE OF THE ACTION

1. This case involves a conspiracy among horizontal competitors to fix the prices of foreign currencies (“FX”) and foreign currency instruments. Plaintiffs bring this action for equitable and injunctive relief on behalf of a proposed Nationwide Class, and to recover for injuries caused by Defendants on behalf of the proposed State Classes.¹ Plaintiffs and members of the proposed Classes are indirect purchasers of spot FX Instruments² from Defendants and/or Defendants’ co-conspirators.

2. Beginning at least as early as 2007 and continuing through at least 2013, Defendants conspired with each other to fix prices in the FX market.³ Defendants communicated with each other daily, exchanging confidential customer information and coordinating their trading strategies to manipulate FX benchmark rates and fix FX prices. These collusive communications

¹ See Class definitions, *infra* at “Class Action Allegations.”

² “FX Instrument” is defined in this Complaint and in the *FOREX* settlements as any FX spot transaction, forward, swap, future, option, or any other FX transaction or instrument the trading or settlement value of which is related in any way to FX rates. “FX Exchange-Traded Instrument” is defined in this Complaint and in the *FOREX* settlements as any FX Instrument that was listed for trading through a U.S. exchange, including, but not limited to, FX futures contracts and options contracts.

³ The exact dates of the Conspiracy and the identities of Defendants’ co-conspirators are presently unknown to Plaintiffs.

were widespread throughout Defendants' FX trading departments. As one FX trader at Barclays put it, "if you aint cheating, you aint trying."

3. Defendants' conspiracy impacted the prices of all forms of FX Instruments throughout the Class Period-, including, as detailed below, the prices of FX Instruments purchased by Plaintiffs and members of the Classes from retail foreign exchange dealers ("RFEDs") where the RFEDs purchased FX Instruments from Defendants for resale to their retail FX customers such as Plaintiffs and members of the Classes.

4. Defendants' conspiracy has been the subject of antitrust investigations by multiple U.S., foreign, and international governmental authorities. Several government authorities have imposed fines and other sanctions on one or more Defendants, including the U.S. Department of Justice, U.S. Commodity Futures Trading Commission, U.S. Federal Reserve, New York State Department of Financial Services, United Kingdom Financial Conduct Authority, the Swiss Financial Market Supervisory Authority, and the South African Competition Commission. Thus far, Defendants have been ordered to pay over \$11 billion in fines and settlements to government authorities for their involvement in the FX market manipulation conspiracy.

5. Defendants' conspiracy is also the subject of a nationwide direct purchaser antitrust class action currently pending before this Court, brought on behalf of persons and entities that purchased FX Instruments directly from one or more Defendants or co-conspirators, and persons and entities that purchased FX Exchange-Traded Instruments directly on a U.S. exchange (collectively, the "Direct Purchaser Class Plaintiffs"). *In re Foreign Exchange Benchmark Rates Antitrust Litigation*, 1:13-cv-07789-LGS (S.D.N.Y.) ("*FOREX*"). On October 22, 2015, the Direct Purchaser Class Plaintiffs in *FOREX* moved for preliminary approval of settlements totaling \$2,009,075,000 with the following Defendants: Bank of America Corporation; Bank of America,

N.A.; Merrill Lynch, Pierce, Fenner & Smith Inc.; Barclays Bank PLC; Barclays Capital Inc.; BNP Paribas Group; BNP Paribas North America Inc.; BNP Paribas Securities Corp.; BNP Prime Brokerage, Inc.; Citigroup Inc.; Citibank, N.A.; Citicorp; Citigroup Global Markets Inc.; The Goldman Sachs Group, Inc.; Goldman, Sachs & Co.; HSBC Holdings PLC; HSBC Bank PLC; HSBC North America Holdings Inc.; HSBC Bank USA, N.A.; HSBC Securities (USA) Inc.; JPMorgan Chase & Co.; JPMorgan Chase Bank, N.A.; The Royal Bank of Scotland Group PLC; The Royal Bank of Scotland PLC; RBS Securities Inc.; UBS AG; UBS Group AG; and UBS Securities LLC ~~(collectively, the “Settling Defendants”).~~ See *FOREX*, ECF No. 480. On December 15, 2015, this Court preliminarily approved the settlements, designated a settlement administrator, and preliminarily certified a settlement class of persons and entities that entered into an FX Instrument directly with a Defendant or co-conspirator (the “Direct Settlement Class”) and a settlement class of persons and entities that entered into an FX Exchange-Traded Instrument directly on a U.S. exchange (the “Exchange-Only Settlement Class”). *Id.* at ECF No. 536. ~~The *FOREX* litigation is ongoing against the remaining Defendants: Bank of Tokyo-Mitsubishi UFJ Ltd.; Credit Suisse Group AG; Credit Suisse AG; Credit Suisse Securities (USA) LLC; Deutsche Bank AG; Deutsche Bank Securities Inc.; Morgan Stanley; Morgan Stanley & Co., LLC; Morgan Stanley & Co. International plc; RBC Capital Markets, LLC; Société Générale S.A.; and Standard Chartered Bank. On July 28, 2017, the *FOREX* plaintiffs moved for preliminary approval of settlements totaling \$111,200,000 with Morgan Stanley, RBC, SocGen, Standard Chartered, and BTMU. *Id.* at ECF No. 820. The Court granted preliminary approval on September 8, 2017. *Id.* at ECF No. 875. On September 29, 2017, the *FOREX* plaintiffs moved for preliminary approval of a settlement for \$190,000,000 with Deutsche Bank. *Id.* at ECF No. 875. The Court granted preliminary approval that same day. *Id.* at ECF No. 882. The fifteen Defendant groups that have~~

entered into settlements in FOREX are referred to herein as “Settling Defendants.” On January 12, 2018, the FOREX plaintiffs filed a motion for final approval of the settlements with all fifteen Settling Defendant groups. *Id.* at ECF No. 924. The FOREX litigation is ongoing against Credit Suisse Group AG; Credit Suisse AG; and Credit Suisse Securities (USA) LLC (collectively, the “Non-Settling Defendants”). The Defendants currently named in FOREX (including Settling Defendants and Non-Settling Defendants) are identical to the Defendants named in this action², with the exceptions of HSBC Holdings plc and The Royal Bank of Scotland Group plc, which are Settling Defendants in FOREX but are no longer Defendants in this action.

6. Plaintiffs and members of the proposed Classes in this action purchased FX Instruments directly from members of the preliminarily-certified Direct Settlement Class in FOREX², including those Direct Settlement Class members who are RFEDs. To the extent Plaintiffs’ claims must proceed under the rule of reason or otherwise require the definition of a relevant market, the market relevant to Plaintiffs’ claims is the United States market for spot FX Instruments. As indirect purchasers of spot FX Instruments, Plaintiffs and members of the proposed Classes are participants in the relevant market.

JURISDICTION, VENUE, AND INTERSTATE COMMERCE

7. This Court has subject matter jurisdiction under the Clayton Antitrust Act, 15 U.S.C. §§ 15 and 26; the Sherman Act, 15 U.S.C. § 1; and 28 U.S.C. §§ 1331 and 1337(a). This Court also has subject matter jurisdiction for Plaintiffs’ state-law claims under 28 U.S.C. § 1332(d) and 1367(a), in that: (a) this is a class action in which the aggregate amount in controversy exceeds the sum of \$5,000,000, exclusive of interest and costs, and in which some members of the proposed Classes are citizens of a state different from some Defendants; and (b) Plaintiffs’ state-law claims form all or part of the same case or controversy as their federal claims under Article III of the United States Constitution.

8. The Court has personal jurisdiction over each Defendant because Defendants' collusive and manipulative acts took place, in substantial part, in New York specifically and in the United States generally. These acts were conducted by persons and entities subject to the laws of the United States, as well as New York, Arizona, California, Illinois, Florida, Massachusetts, Minnesota, North Carolina, and other states. Each Defendant has continuously and systematically transacted FX in this District and throughout the United States. Most Defendants are headquartered in, maintain their principal place of business in, or maintain offices in New York. Defendant traders located outside of the United States communicated directly with Defendant traders located in New York to carry out and facilitate the conspiracy. Defendants' conspiracy was directed at, and had the intended effect of, causing injury to persons residing in, located in, or doing business in this District and throughout the United States. Defendants' conduct was within the flow of, and had a substantial effect on, the interstate commerce of the United States, including in this District.

9. Venue is proper in this District pursuant to 28 U.S.C. § 1391(b) and 15 U.S.C. § 22. All Defendants reside, transact business, are found, or have agents in this District. Additionally, a substantial part of the events giving rise to Plaintiffs' claims occurred in this District, and a substantial portion of the affected interstate trade and commerce described herein has been carried out in this District.

PARTIES

I. Plaintiffs

10. Plaintiff James Contant is an individual and a resident of Monroe County, New York. During the Class Period defined below, Plaintiff James Contant transacted FX Instruments directly with an ~~FX broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in New York, Plaintiff

James Contant engaged in FX spot transactions with currency pairs including EUR/USD, USD/JPY, EUR/JPY, AUD/USD, and USD/CHF directly with an ~~FX broker~~ RFED where the ~~FX broker~~ RFED transacted those FX Instruments directly with Defendants including Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, RBS, RBC, SocGen, and UBS. As a result of Defendants' illegal conduct described herein, the ~~FX broker~~ RFED paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to its customers, including Plaintiff James Contant. Thus, Plaintiff James Contant indirectly purchased FX Instruments from one or more Defendants during the Class Period in New York, and was injured as a result of Defendants' anticompetitive conduct alleged herein. Plaintiff James Contant is referred to herein as the "New York Plaintiff."

11. Plaintiff Sandra Lavender is an individual and resident of Maricopa County, Arizona. During the Class Period defined below, Plaintiff Sandra Lavender transacted FX Instruments directly with an ~~FX broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in Arizona, Plaintiff Sandra Lavender engaged in FX spot transactions with the currency pair EUR/USD directly with an ~~FX broker~~ RFED where the ~~FX broker~~ RFED transacted those FX Instruments directly with Defendants including JPMorgan, Morgan Stanley, and RBS. As a result of Defendants' illegal conduct described herein, those ~~FX brokers~~ RFEDs paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to their customers, including Plaintiff Sandra Lavender. Thus, Plaintiff Sandra Lavender indirectly purchased FX Instruments from one or more Defendants during the Class Period in Arizona, and was injured as a result of Defendants'

anticompetitive conduct alleged herein. Plaintiff Sandra Lavender is referred to herein as the “Arizona Plaintiff.”

12. Plaintiff Victor Hernandez is an individual and resident of Los Angeles County, California. During the Class Period defined below, Plaintiff Victor Hernandez transacted FX Instruments directly with an ~~FX-broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in California, Plaintiff Victor Hernandez engaged in FX spot transactions with currency pairs including GBP/JPY, GBP/USD, and USD/JPY directly from an ~~FX-broke~~ RFED where the ~~FX-broker~~ RFED purchased those FX Instruments directly from Defendants including JPMorgan, Morgan Stanley, and RBS. As a result of Defendants’ illegal conduct described herein, the ~~FX-broker~~ RFED paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants’ co-conspirators, and passed on those overcharges on FX Instruments to its customers, including Plaintiff Victor Hernandez. Thus, Plaintiff Victor Hernandez indirectly purchased FX Instruments from one or more Defendants during the Class Period in California, and was injured as a result of Defendants’ anticompetitive conduct alleged herein.

13. Plaintiff Martin-Han Tran is an individual and resident of Orange County, California. During the Class Period defined below, Plaintiff Martin-Han Tran transacted FX Instruments directly with an ~~FX-broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in California, Plaintiff Martin-Han Tran engaged in FX spot transactions with currency pairs including USD/JPY, AUD/USD, USD/CAD, USD/CHF, GBP/USD, EUR/JPY, EUR/USD, EUR/GBP, GBP/JPY, EUR/CHF, and GBP/AUD directly with an ~~FX-broker~~ RFED where the ~~FX-broker~~ RFED transacted those FX Instruments directly with Defendants including Bank of America,

Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, RBS, RBC, SocGen, and UBS. As a result of Defendants' illegal conduct described herein, the ~~FX broker~~ RFED paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to its customers, including Plaintiff Martin-Han Tran. Thus, Plaintiff Martin-Han Tran indirectly purchased FX Instruments from one or more Defendants during the Class Period in California, and was injured as a result of Defendants' anticompetitive conduct alleged herein. Plaintiffs Victor Hernandez and Martin-Han Tran are collectively referred to herein as the "California Plaintiffs."

14. Plaintiff FX Primus Ltd. ("FX Primus") is a limited liability company doing business in the state of Florida. During the Class Period defined below, Plaintiff FX Primus transacted FX Instruments directly with an ~~FX broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in Florida, Plaintiff FX Primus engaged in FX spot transactions with currency pairs including USD/JPY, EUR/USD, EUR/JPY, and USD/CHF directly from an ~~FX broker~~ RFED where the ~~FX broker~~ RFED purchased those FX Instruments directly from Defendants including Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, RBS, RBC, SocGen, and UBS. As a result of Defendants' illegal conduct described herein, the ~~FX broker~~ RFED paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to its customers, including Plaintiff FX Primus. Thus, Plaintiff FX Primus indirectly purchased FX Instruments from one or more Defendants during the Class

Period in Florida, and was injured as a result of Defendants' anticompetitive conduct alleged herein.

15. Plaintiff Carlos Gonzalez is an individual and resident of Broward County, Florida. During the Class Period defined below, Plaintiff Carlos Gonzalez transacted FX Instruments directly with an ~~FX broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in Florida, Plaintiff Carlos Gonzalez engaged in FX spot transactions with currency pairs including EUR/USD, GBP/USD, USD/CHF, EUR/CHF, USD/JPY, AUD/JPY, CHF/JPY, NZD/USD, and EUR/GBP directly from an ~~FX broker~~ RFED where the ~~FX broker~~ RFED purchased those FX Instruments directly from Defendants including Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, RBS, RBC, SocGen, and UBS. Specifically, Plaintiff Carlos Gonzalez engaged in FX spot transactions with currency pairs including AUD/CAD, EUR/USD, GBP/USD, USD/JPY, AUD/USD, EUR/USD, AUD/CHF, EUR/JPY, NZD/USD, NZD/JPY, EUR/AUD, AUD/NZD, and GBP/JPY directly with an ~~FX broker~~ RFED where the ~~FX broker~~ RFED transacted those FX Instruments directly with Defendants including Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, RBS, RBC, SocGen, and UBS. As a result of Defendants' illegal conduct described herein, the ~~FX broker~~ RFED paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to its customers, including Plaintiff Carlos Gonzalez. Thus, Plaintiff Carlos Gonzalez indirectly purchased FX Instruments from one or more Defendants during the Class Period in Florida, and was injured as a result of Defendants' anticompetitive

conduct alleged herein. Plaintiffs FX Primus and Carlos Gonzalez are collectively referred to herein as the “Florida Plaintiffs.”

16. Plaintiff Ugnius Matkus is an individual and resident of Cook County, Illinois. During the Class Period defined below, Plaintiff Ugnius Matkus transacted FX Instruments with several ~~FX brokers~~ RFEDs, all of which transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in Illinois, Plaintiff Ugnius Matkus engaged in FX spot transactions with currency pairs including EUR/USD, AUD/USD, AUD/JPY, EUR/JPY, USD/CHF, CHF/JPY, and GBP/USD directly with ~~FX brokers~~ RFEDs where the ~~FX brokers~~ RFEDs transacted those FX Instruments directly with Defendants including Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, RBS, RBC, SocGen, and UBS. As a result of Defendants’ illegal conduct described herein, those ~~FX brokers~~ RFEDs paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants’ co-conspirators, and passed on those overcharges on FX Instruments to their customers, including Plaintiff Ugnius Matkus. Thus, Plaintiff Ugnius Matkus indirectly purchased FX Instruments from one or more Defendants during the Class Period in Illinois, and was injured as a result of Defendants’ anticompetitive conduct alleged herein. Plaintiff Ugnius Matkus is referred to herein as the “Illinois Plaintiff.”

17. Plaintiff Charles G. Hitchcock III is an individual and resident of Suffolk County, Massachusetts. During the Class Period defined below, Plaintiff Charles G. Hitchcock III transacted FX Instruments with several ~~FX brokers~~ RFEDs, all of which transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in Massachusetts, Plaintiff Charles G. Hitchcock III engaged in FX spot transactions with currency pairs including GBP/JPY, EUR/USD, AUD/USD, EUR/AUD, and

GBP/USD directly with ~~FX-brokers~~ RFEDs where the ~~FX-brokers~~ RFEDs transacted those FX Instruments directly with Defendants including Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, Morgan Stanley, RBS, RBC, SocGen, and UBS. As a result of Defendants' illegal conduct described herein, those ~~FX-brokers~~ RFEDs paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to their customers, including Plaintiff Charles G. Hitchcock III. Thus, Plaintiff Charles G. Hitchcock III indirectly purchased FX Instruments from one or more Defendants during the Class Period in Massachusetts, and was injured as a result of Defendants' anticompetitive conduct alleged herein. Plaintiff Charles G. Hitchcock III purchased FX Instruments for personal use, and his FX Instruments were not used for any business purpose. Plaintiff Charles G. Hitchcock III is referred to herein as the "Massachusetts Plaintiff."

18. Plaintiff Jerry Jacobson is an individual and resident of Wright County, Minnesota. During the Class Period defined below, Plaintiff Jerry Jacobson transacted FX Instruments directly with an ~~FX-broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in Minnesota, Plaintiff Jerry Jacobson engaged in FX spot transactions with currency pairs including AUD/USD, EUR/USD, GBP/USD, USD/CAD, USD/CHF, EUR/GBP, GBP/CHF, and EUR/JPY directly with an ~~FX-broker~~ RFED where the ~~FX-broker~~ RFED transacted those FX Instruments directly with Defendants including JPMorgan, Morgan Stanley, and RBS. As a result of Defendants' illegal conduct described herein, the ~~FX-broker~~ RFED paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to its customers, including Plaintiff Jerry Jacobson. Thus, Plaintiff

Jerry Jacobson indirectly purchased FX Instruments from one or more Defendants during the Class Period in Minnesota, and was injured as a result of Defendants' anticompetitive conduct alleged herein. Plaintiff Jerry Jacobson is referred to herein as the "Minnesota Plaintiff."

19. Plaintiff Tina Porter is an individual and resident of Rockingham County, North Carolina. During the Class Period defined below, Plaintiff Tina Porter transacted FX Instruments directly with an ~~FX broker~~ RFED that transacted those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in North Carolina, Plaintiff Tina Porter engaged in FX spot transactions directly from an ~~FX broker~~ RFED where the ~~FX broker~~ RFED purchased those FX Instruments directly from Defendants including JPMorgan, Morgan Stanley, and RBS. As a result of Defendants' illegal conduct described herein, the ~~FX broker~~ RFED paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to its customers, including Plaintiff Tina Porter. Thus, Plaintiff Tina Porter indirectly purchased FX Instruments from one or more Defendants during the Class Period in North Carolina, and was injured as a result of Defendants' anticompetitive conduct alleged herein.

20. Plaintiff Paul Vermillion is an individual and resident of Guilford County, North Carolina. During the Class Period defined below, Plaintiff Paul Vermillion transacted FX Instruments with several ~~FX brokers~~ RFEDs, all of which entered into those FX Instruments directly with one or more Defendants. Specifically, while both residing in and physically located in North Carolina, Plaintiff Paul Vermillion engaged in FX spot transactions with currency pairs including EUR/USD, USD/CAD, GBP/USD, AUD/USD, and EUR/JPY directly with ~~FX brokers~~ RFEDs where the ~~FX brokers~~ RFEDs transacted those FX Instruments directly with Defendants including Barclays, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs,

HSBC, JPMorgan, Morgan Stanley, RBC, RBS, SocGen, Standard Chartered, and UBS. As a result of Defendants' illegal conduct described herein, those ~~FX brokers~~ RFEDs paid artificially inflated prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and passed on those overcharges on FX Instruments to their customers, including Plaintiff Paul Vermillion. Thus, Plaintiff Paul Vermillion indirectly purchased FX Instruments from one or more Defendants during the Class Period in North Carolina, and was injured as a result of Defendants' anticompetitive conduct alleged herein. Plaintiffs Tina Porter and Paul Vermillion are collectively referred to herein as the "North Carolina Plaintiffs."

II. Defendants

21. **Bank of America:** Defendant Bank of America Corporation is a Delaware corporation headquartered at 100 North Tryon Street, Charlotte, North Carolina 28255. Bank of America Corporation is a multi-national banking and financial services corporation, with its investment banking division located at the Bank of America Tower, One Bryant Park, 1111 Avenue of the Americas, New York, New York 10036. Defendant Bank of America, N.A. is a federally chartered national banking association headquartered at 101 South Tyron Street, Charlotte, North Carolina 28255, and is an indirect, wholly-owned subsidiary of Bank of America Corporation. Defendant Merrill Lynch, Pierce, Fenner & Smith Inc. is a Delaware corporation with its headquarters at One Bryant Park, New York, New York 10036, and is a wholly-owned subsidiary of Bank of America Corporation. Bank of America, N.A. has approximately 140 branches in Arizona, 900 branches in California, 550 branches in Florida, 160 branches in Illinois, 220 branches in Massachusetts, six branches in Minnesota, and 150 branches in North Carolina. Merrill Lynch, Pierce, Fenner & Smith Inc. has nine branch offices in Arizona, over 50 branch offices in California, over 50 branch offices in Florida, 17 branch offices in Illinois, 13 branch offices in Massachusetts, eight branch offices in Minnesota, and 17 branch offices in North

Carolina. Defendants Bank of America Corporation, Bank of America, N.A., and Merrill Lynch, Pierce, Fenner & Smith Inc. are referred to collectively in this Complaint as “Bank of America.”

22. **BTMU:** Defendant The Bank of Tokyo Mitsubishi UFJ Ltd. (“BTMU”) is a Japanese company headquartered in Tokyo, Japan. BTMU’s New York Branch is BTMU’s “traditional hub” for FX trading, and is headquartered at 1251 Avenue of the Americas, New York, New York 10002. BTMU is registered with the New York Department of Financial Services (“NYDFS”) as a foreign bank licensed to do business in New York through the BTMU New York Branch. At year-end 2013, BTMU reported for its New York branch gross notional outstanding spot FX contracts of \$2.4 billion and FX derivatives of \$69.8 billion, for a total of \$72.2 billion. *See FOREX*, 2016 WL 1268267, at *6 (S.D.N.Y. Mar. 31, 2016) (denying BTMU’s motion to dismiss for lack of personal jurisdiction). BTMU has a branch in Los Angeles, California and a corporate banking representative office in San Francisco, California; a branch in Chicago, Illinois; and representative and corporate banking offices in Minneapolis and Minnetonka, Minnesota, respectively.

23. **Barclays:** Defendant Barclays Bank PLC is a British public limited company headquartered in London, England. Barclays Bank PLC is licensed by the NYDFS with a registered address at 745 Seventh Avenue, New York, New York 10019. Defendant Barclays Capital Inc. is a wholly-owned subsidiary of Barclays Bank PLC and engages in investment banking, wealth management, and investment management services. Barclays Capital Inc. is headquartered at 745 7th Avenue, New York, New York 10019. Barclays Bank PLC has a branch office in Miami, Florida. Barclays Capital, Inc. has offices in Los Angeles, Menlo Park and San Francisco, California; an office in Miami, Florida; an office in Chicago, Illinois; and an office in

Boston, Massachusetts. Defendants Barclays Bank PLC and Barclays Capital Inc. are referred to collectively in this Complaint as “Barclays.”

24. **BNP Paribas:** Defendant BNP Paribas Group is a French bank and financial services company headquartered in Paris, France. BNP Paribas Group is licensed by the NYDFS with a registered address at 787 Seventh Avenue, New York, New York 10019. BNP Paribas North America, Inc. is a Delaware corporation headquartered at 787 Seventh Avenue, New York, New York 10019. BNP Paribas North America, Inc. provides corporate, investment banking, and securities brokerage services, and is an affiliate of BNP Paribas Group. Defendant BNP Paribas Securities Corp. is a Delaware corporation with its principal place of business in New York, New York. BNP Paribas Securities Corp. is a wholly-owned subsidiary of BNP Paribas North America, Inc. BNP Paribas Prime Brokerage, Inc. is a Delaware corporation with its principal place of business in New York, New York. BNP Paribas Securities Corp. has an office in San Francisco, California; an office in Chicago, Illinois; and an office in Boston, Massachusetts. Defendants BNP Paribas Group, BNP Paribas North America, Inc., BNP Paribas Securities Corp., and BNP Prime Brokerage, Inc. are referred to collectively in this Complaint as “BNP Paribas.”

25. **Citigroup:** Defendant Citigroup Inc. is a Delaware corporation headquartered at 399 Park Avenue, New York, New York 10022. Defendant Citibank, N.A. is a federally chartered national banking association headquartered at 399 Park Avenue, New York, New York 10022 and is a wholly-owned subsidiary of Defendant Citigroup Inc. Defendant Citicorp is a financial services holding company organized and existing under the laws of Delaware. Defendant Citigroup Global Markets Inc. is a wholly-owned subsidiary of Citigroup Inc., organized and existing under the laws of New York and headquartered at 390 Greenwich Street, New York, New York 10013. Citibank, N.A. has approximately 300 branches in California, 50 branches in Florida,

60 branches in Illinois, and private and commercial banking offices in Boston, Massachusetts. Citigroup Global Markets, Inc. has an office in Scottsdale, Arizona; an office in San Francisco, California; at least one location in South Florida; an office in Naperville, Illinois; an office in Minneapolis, Minnesota; and offices in Charlotte and Winston Salem, North Carolina. Defendants Citigroup Inc., Citibank, N.A., Citicorp, and Citigroup Global Markets Inc. are referred to collectively in this Complaint as “Citigroup.”

26. **Credit Suisse:** Defendant Credit Suisse Group AG is a Swiss holding company headquartered in Zurich, Switzerland. Defendant Credit Suisse AG is a wholly-owned subsidiary of Credit Suisse Group AG and is a bank organized under the laws of Switzerland, with its principal place of business located in Zurich, Switzerland. Credit Suisse AG is licensed by the NYDFS and operates a foreign branch with a registered address at 11 Madison Avenue, New York, New York 10010. Defendant Credit Suisse Securities (USA) LLC is a Delaware limited liability company headquartered at 11 Madison Avenue, New York, New York 10010, and is a wholly-owned subsidiary of Credit Suisse Group AG. Credit Suisse Group AG has four offices in California: two in San Francisco, one in Los Angeles, and one in San Diego. It also has an office in West Palm Beach, Florida; an office in Chicago, Illinois; and a corporate center in Raleigh, North Carolina. Credit Suisse Securities (USA) LLC has offices in Los Angeles and San Francisco, California and an office in Chicago, Illinois. Defendants Credit Suisse Group AG, Credit Suisse AG, and Credit Suisse Securities (USA) LLC are referred to collectively in this Complaint as “Credit Suisse.”

27. **Deutsche Bank:** Defendant Deutsche Bank AG is a German financial services company headquartered in Frankfurt, Germany. Deutsche Bank AG is licensed by the NYDFS with a registered address at 60 Wall Street, 4th Floor, New York, New York 10005. Defendant Deutsche Bank Securities Inc. is a Delaware corporation with its principal place of business at 60

Wall Street, New York, New York, 10005. Deutsche Bank Securities Inc. is an indirect, wholly-owned subsidiary of Deutsche Bank AG. Deutsche Bank AG has a branch or office in each of the following six California cities: Costa Mesa, Los Angeles, Menlo Park, Palo Alto, San Francisco and Santa Ana. It also has two offices in Jacksonville and one in Miami, Florida; an office in Chicago, Illinois; three offices or branches in Boston, Massachusetts; and four offices or branches in North Carolina: three in Cary and one in Charlotte. Deutsche Bank Securities Inc. has offices in San Francisco, Los Angeles, and Santa Ana, California; an office in Jacksonville, Florida; an office in Chicago, Illinois; and an office in Winston Salem, North Carolina. Defendants Deutsche Bank AG and Deutsche Bank Securities Inc. are referred to collectively in this Complaint as “Deutsche Bank.”

28. **Goldman Sachs:** Defendant The Goldman Sachs Group, Inc. is a Delaware corporation headquartered at 200 West Street, New York, New York 10282. The Goldman Sachs Group, Inc. is a bank holding company and a financial holding company. Defendant Goldman, Sachs & Co. is a wholly-owned subsidiary of The Goldman Sachs Group, Inc. and is its principal operating subsidiary in the United States. Goldman, Sachs & Co. is located at 200 West Street, New York, New York 10282. The Goldman Sachs Group, Inc. and Goldman, Sachs & Co. have offices in Los Angeles and San Francisco, California; offices in Miami and West Palm Beach, Florida; offices in Chicago, Illinois; and offices in Boston Massachusetts. Defendants The Goldman Sachs Group, Inc. and Goldman, Sachs & Co. are referred to collectively in this Complaint as “Goldman Sachs.”

29. **HSBC:** Defendant HSBC ~~Holdings PLC is a United Kingdom public limited company headquartered in London, England. Defendant HSBC~~ Bank PLC is a wholly-owned subsidiary of HSBC Holdings PLC, and is ~~also~~ a United Kingdom public limited company

headquartered in London, England. Defendant HSBC North America Holdings, Inc. is a Delaware corporation headquartered at 452 5th Avenue, New York, New York 10018, and is a wholly-owned subsidiary of HSBC Holdings PLC. Defendant HSBC North America Holdings, Inc. is the holding company for ~~HSBC Holdings PLC's~~ HSBC Bank plc's operations in the United States. Defendant HSBC Bank USA, N.A. is a national banking association with its principal place of business in New York, New York, and is an indirect wholly-owned subsidiary of HSBC North America Holdings, Inc. Defendant HSBC Securities (USA) Inc. is a Delaware corporation with its principal place of business at 452 Fifth Avenue, New York, NY, United States. HSBC Bank USA, N.A. has 35 branch offices in California and 17 branch offices in Florida. HSBC Securities (USA) Inc. has an office in Mettawa, Illinois. ~~Defendants HSBC Holdings PLC; Defendants~~ HSBC Bank PLC; HSBC North America Holdings, Inc.; HSBC Bank USA, N.A.; and HSBC Securities (USA) Inc. are referred to collectively in this Complaint as "HSBC."

30. **JPMorgan:** Defendant JPMorgan Chase & Co. is a Delaware corporation headquartered at 270 Park Avenue, 38th Floor, New York, New York 10017. Defendant JPMorgan Chase Bank, N.A. is a federally-chartered national banking association, also headquartered at 270 Park Avenue, 38th Floor, New York, New York 10017, and is a wholly-owned subsidiary of Defendant JPMorgan Chase & Co. JP Morgan Chase & Co. has corporate offices in Phoenix, Arizona; Los Angeles, California; Tampa, Florida; and Chicago, Illinois. JP Morgan Chase Bank, N.A. has approximately 250 branches in Arizona, 1,000 branches in California, 400 branches in Florida, 360 branches in Illinois, and a limited service trust office in Boston, Massachusetts. Defendants JPMorgan Chase & Co. and JPMorgan Chase Bank, N.A. are referred to collectively in this Complaint as "JPMorgan."

31. **Morgan Stanley:** Defendant Morgan Stanley is a Delaware corporation headquartered at 1585 Broadway, New York, New York 10036. Defendant Morgan Stanley & Co., LLC is a limited liability company organized and existing under the laws of Delaware, with its principal place of business in New York, New York. Morgan Stanley & Co., LLC is a wholly-owned subsidiary of Morgan Stanley. Defendant Morgan Stanley & Co. International plc is a United Kingdom public limited company with headquarters in London, England. Morgan Stanley has offices in Los Angeles, Menlo Park, and San Francisco, California; offices in Boca Raton and Miami, Florida; an office in Chicago, Illinois; and an office in Boston, Massachusetts. Defendants Morgan Stanley; Morgan Stanley & Co., LLC; and Morgan Stanley & Co. International plc are referred to collectively in this Complaint as “Morgan Stanley.”

32. **RBC:** Defendant RBC Capital Markets LLC (“RBC”) is a limited liability company incorporated in Minnesota, with its principal place of business and headquarters located at Three World Financial Center, 200 Vesey Street, 5th Floor, New York, New York 10281. Prior to 2010, RBC was RBC Capital Markets Corporation, which was also a Minnesota corporation headquartered in New York, New York. RBC has offices in Phoenix, Arizona; Los Angeles and San Francisco, California; Jacksonville and St. Petersburg, Florida; Chicago, Illinois; Boston, Massachusetts; Minneapolis, Minnesota; and Charlotte, North Carolina.

33. **RBS:** Defendant The Royal Bank of Scotland ~~Group~~ PLC is a United Kingdom public limited company headquartered in Edinburgh, Scotland- and a wholly owned subsidiary of The Royal Bank of Scotland Group plc. Defendant Royal Bank of Scotland-~~Group~~ PLC is licensed by the NYDFS with a registered address at 1095 Avenue of the Americas, New York, New York 10036. Defendant RBS Securities Inc. is a Delaware corporation headquartered at 600 Washington Boulevard, Stamford, Connecticut 06901. RBS Securities Inc. has a sales and trading office in

San Francisco, California. Defendants Royal Bank of Scotland ~~Group~~ PLC and RBS Securities, Inc., are referred to collectively in this Complaint as “RBS.”

34. **SocGen:** Defendant Société Générale S.A. (“SocGen”) is a financial services company headquartered in Paris, France. SocGen’s New York Branch is headquartered at 1221 Avenue of the Americas, New York, New York 10020. SocGen is licensed by the NYDFS with a registered address of 245 Park Avenue, New York, New York 10167. One of the SocGen New York Branch’s “primary activities” is the sale of FX Instruments, and its heads of emerging market FX trading and G10 FX trading are based in New York. At year-end 2013, SocGen reported for its New York branch gross notional outstanding spot FX contracts of approximately \$13 million and FX derivatives of \$21.6 billion. *See id.* (denying SocGen’s motion to dismiss the FX direct purchaser complaint against SocGen for lack of personal jurisdiction). According to SocGen’s Twitter bio, SocGen opened its first office in the United States in 1938 and “is one of the largest foreign banking organizations in the US.” SocGen has representative offices in Irvine and Santa Monica, California; a branch office in Chicago, Illinois; and a branch office in Boston, Massachusetts.

35. **Standard Chartered:** Defendant Standard Chartered Bank (“Standard Chartered”) is incorporated under the laws of England and Wales, with headquarters in London, England. Standard Chartered is licensed by the NYDFS with a registered address at 1095 Avenue of the Americas, New York, New York 10036. Standard Chartered’s New York Branch, located at 1095 Avenue of the Americas, New York, New York 10036, is the headquarters for Standard Chartered’s “Americas” business and “primarily conducts a U.S. dollar clearing business,” including the sale of FX Instruments. At year-end 2013, Standard Chartered Bank reported for its New York branch gross notional outstanding spot FX contracts of \$1.9 billion and FX derivatives

of \$141.4 billion. *See id.* (granting motion to dismiss the FX direct purchaser complaint for lack of personal jurisdiction as to Standard Chartered Bank’s parent company Standard Chartered plc, which does not conduct business in New York, but permitting an application to substitute Standard Chartered Bank as a defendant). Standard Chartered has a branch in San Francisco, California and at least one location in Florida.

36. **UBS:** Defendant UBS AG is a Swiss company based in Basel and Zurich, Switzerland, and is a wholly-owned subsidiary of Defendant UBS Group AG. Defendant UBS Group AG is a Swiss company headquartered in Zurich, Switzerland. Defendant UBS Securities LLC is a Delaware limited liability company headquartered at 677 Washington Blvd, Stamford, Connecticut 06901, and is a wholly-owned subsidiary of UBS AG. UBS AG has branch offices in Mill Valley and San Diego, California; Miami and Gainesville, Florida; and Chicago, Illinois. UBS Securities LLC has offices in San Francisco, California and Chicago, Illinois. Defendants UBS AG, UBS Group AG, and UBS Securities LLC are referred to collectively in this Complaint as “UBS.”

37. “Defendant” or “Defendants,” as used herein, includes all Defendants named specifically above, as well as all of the named Defendants’ predecessors, direct or indirect parents, subsidiaries, or divisions, including entities that merged with or were acquired by the named Defendants that played a material role in the unlawful acts alleged in this Complaint.

38. Whenever reference is made to any act of any corporation, the allegation means that the corporation engaged in the act by or through its directors, officers, employees, or agents while they were actively engaged in the management, direction, control, or transaction of the corporation’s business or affairs.

39. Various other persons, firms, and corporations, that are unknown and not named as Defendants, have participated as co-conspirators with Defendants and have performed acts and/or made statements in furtherance of the conspiracy. Defendants are jointly and severally liable for the acts of their co-conspirators, whether named or not the co-conspirators are named as Defendants in this Complaint. “Co-conspirators,” as used herein, includes direct or indirect parents, subsidiaries, and divisions of all co-conspirator entities.

CLASS ACTION ALLEGATIONS

40. Plaintiffs bring this action individually and as a class action pursuant to Rules 23(a) and (b)(2) of the Federal Rules of Civil Procedure, seeking equitable and injunctive relief, on behalf of the following proposed nationwide indirect purchaser class (the “Nationwide Class”):

Nationwide Class: All persons and entities who, between December 1, 2007 and December 31, 2013 (inclusive) (the “Class Period”), indirectly purchased an FX Instrument⁴ from a Defendant or co-conspirator in the United States and/or while domiciled in the United States, by entering into an FX Instrument with a member of the Direct Settlement Class,⁵ where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

⁴ See *supra* note 2.

⁵ “Direct Settlement Class” refers to the class of direct purchasers who purchased an FX Instrument directly from one or more Defendants or co-conspirators, which was granted preliminary class certification for settlement purposes in *FOREX*, ECF No. 536 (“Preliminary Approval Order”). The Preliminary Approval Order defines the Direct Settlement Class as:

All Persons who, between January 1, 2003 and the date of the Preliminary Approval Order, entered into an FX Instrument directly with a Defendant, a direct or indirect parent, subsidiary, or division of a Defendant, a Released Party, or coconspirator where such Persons were either domiciled in the United States or its territories or, if domiciled outside the United States or its territories, transacted FX Instruments in the United States or its territories. Specifically excluded from the Direct Settlement Class are Defendants; Released Parties; co-conspirators; the officers, directors, or employees of any Defendant, Released Party, or co-conspirator; any entity in which any Defendant, Released Party, or co-conspirator has a controlling interest; any affiliate, legal representative, heir, or assign of any Defendant, Released Party, or co-conspirator and any person acting on their behalf; provided, however, that Investment Vehicles shall not be excluded from the definition of the Direct Settlement Class. Also excluded from the Direct Settlement Class are any judicial officer presiding over this action and the members of his/her immediate family and judicial staff, and any juror assigned to this Action.

See also infra at Factual Allegations, Section V (“Direct Purchaser Litigation and Settlements”). The Preliminary Approval Order also certified an “Exchange-Only Settlement Class” comprised of persons and entities that entered into an FX Exchange-Traded Instrument directly on a U.S. exchange. Although the Direct Class Settlement and the

41. The New York Plaintiff also brings this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to New York antitrust law on behalf the following proposed New York indirect purchaser class or subclass (the “New York Class”):

New York Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in New York and/or while domiciled in New York, by entering into an FX Instrument with a member of the Direct Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

41-42. The Arizona Plaintiff also brings this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to Arizona antitrust law on behalf the following proposed Arizona indirect purchaser class or subclass (the “Arizona Class”):

Arizona Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in Arizona and/or while domiciled in Arizona, by entering into an FX Instrument with a member of the Direct Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

42-43. The California Plaintiffs also bring this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to California antitrust and consumer protection laws on behalf the following proposed California indirect purchaser class or subclass (the “California Class”):

California Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in California and/or while domiciled in California, by entering into an FX Instrument with a member of the Direct

Exchange-Only Class Settlement (collectively, the “Direct/Exchange-Only Settlements”) were entered into only between the Direct Purchaser Class Plaintiffs and the “Settling Defendants,” the Direct Settlement Class is defined to include all direct purchasers who entered into an FX instrument with *any* Defendant named in *FOREX*, including the “Non-Settling Defendants.” *See, e.g., FOREX*, ECF No. 653-2 (Direct Purchaser Class Plaintiffs' Proposed Notice) (defining “Settling Defendants” and “Non-Settling Defendants” collectively as “Defendants”). The Defendants referred to in the Direct Settlement Class definition (including both the Settling Defendants and the Non-Settling Defendants) are identical to the Defendants named in this Complaint.

Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

~~43.44.~~ The Florida Plaintiffs also bring this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to Florida consumer protection law on behalf the following proposed Florida indirect purchaser class or subclass (the “Florida Class”)

Florida Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in Florida and/or while domiciled in Florida, by entering into an FX Instrument with a member of the Direct Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

~~44.45.~~ The Illinois Plaintiff also brings this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to Illinois antitrust law on behalf the following proposed Illinois indirect purchaser class or subclass (the “Illinois Class”):

Illinois Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in Illinois and/or while domiciled in Illinois, by entering into an FX Instrument with a member of the Direct Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

~~45.46.~~ The Massachusetts Plaintiff also brings this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to Massachusetts consumer protection law on behalf the following proposed Massachusetts indirect purchaser class or subclass (the “Massachusetts Class”):

Massachusetts Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in Massachusetts and/or while domiciled in Massachusetts, by entering into an FX Instrument with a member of the Direct Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

~~46-47.~~ The Minnesota Plaintiff also brings this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to Minnesota antitrust law on behalf the following proposed Minnesota indirect purchaser class or subclass (the “Minnesota Class”):

Minnesota Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in Minnesota and/or while domiciled in Minnesota, by entering into an FX Instrument with a member of the Direct Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

~~47-48.~~ The North Carolina Plaintiffs also bring this action individually and as a class action pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure, seeking damages pursuant to North Carolina antitrust law on behalf the following proposed North Carolina indirect purchaser class or subclass (the “North Carolina Class”):

North Carolina Class: All persons and entities who, during the Class Period, indirectly purchased an FX Instrument from a Defendant or co-conspirator in North Carolina and/or while domiciled in North Carolina, by entering into an FX Instrument with a member of the Direct Settlement Class, where the Direct Settlement Class member entered into the FX Instrument directly with a Defendant or co-conspirator.

~~48-49.~~ The proposed New York, Arizona, California, Florida, Illinois, Massachusetts, Minnesota, and North Carolina Classes are referred to collectively herein as the “State Classes.” The proposed Nationwide Classes and State Classes are referred to collectively herein as the “Classes.”

~~49-50.~~ Excluded from the Classes are Defendants and their co-conspirators; the officers, directors, and employees of any Defendant or co-conspirator; any entity in which any Defendant or co-conspirator has a controlling interest; any affiliate, legal representative, heir, or assign of any Defendant or co-conspirator; federal, state, and municipal government entities and agencies; any

judicial officer presiding over this action and the members of his/her immediate family and judicial staff; and any juror assigned to this action.

~~50.~~51. Also excluded from the Classes are all indirect purchases of FX Instruments where the direct purchaser was operating outside of the U.S. at the time the direct purchase was made and the purchase was made with the foreign desk of a Defendant.

~~51.~~52. While Plaintiffs do not know the exact number of the members of the proposed Classes, Plaintiffs believe there are (at least) thousands of members in each Class. The Classes are readily ascertainable from existing records of members of the Direct Settlement Class.

~~52.~~53. Plaintiffs' claims are typical of the claims of the members of the Classes. Plaintiffs and members of the Classes sustained damages arising out of Defendants' common course of conduct in violation of federal antitrust laws, state antitrust laws, and state consumer protection laws.

~~53.~~54. Common questions of law and fact exist as to all members of the Classes. This is particularly true given the nature of Defendants' and their co-conspirators' conspiracy, which was generally applicable to all members of the Classes, thereby making appropriate relief with respect to each Class as a whole. Such questions of law and fact common to the Classes include, but are not limited to:

- a. Whether Defendants and their co-conspirators engaged in a combination and conspiracy among themselves to fix, raise, maintain, or stabilize the prices of FX Instruments sold in the United States;
- b. The identities of the participants of the alleged conspiracy;
- c. The duration of the alleged conspiracy and the acts carried out by Defendants and their co-conspirators in furtherance of the conspiracy;

d. Whether the alleged conspiracy violated the Sherman Act, 15 U.S.C. § 1, as alleged in the First Claim for Relief;

e. Whether the alleged conduct of Defendants and their co-conspirators caused injury to Plaintiffs and the members of the Classes;

f. The effects of the alleged conspiracy on the prices of FX Instruments sold in the United States during the Class Period;

g. Whether Plaintiffs and the members of the Classes had any reason to know or suspect the conspiracy, or any means to discover the conspiracy;

h. Whether Defendants and their co-conspirators fraudulently concealed the conspiracy's existence from Plaintiffs and the members of the Classes;

i. The appropriate injunctive and related equitable relief for the Nationwide Classes;

j. For the New York Class, whether the alleged conspiracy violated New York General Business Laws § 340, *et seq.* (the Donnelly Act), as alleged in the Second Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations;

k. For the Arizona Class, whether the alleged conspiracy violated Arizona Revised Statutes, §§ 44-1401, *et seq.* (the Arizona Antitrust Act), as alleged in the Third Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations;

l. For the California Class, whether the alleged conspiracy violated California Business and Professions Code § 16720, *et seq.* (the Cartwright Act), as alleged in the Fourth

Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations;

m. For the California Class, whether the alleged conspiracy violated California Business and Professions Code § 17200, *et seq.* (California's Unfair Competition Law), as alleged in the Fifth Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations;

n. For the Florida Class, whether the alleged conspiracy violated Fla. Stat. § 501.201, *et seq.* (the Florida Deceptive and Unfair Trade Practices Act), as alleged in the Sixth Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations;

o. For the Illinois Class, whether the alleged conspiracy violated 740 Ill. Comp. Stat. 10/1, *et seq.* (the Illinois Antitrust Act), as alleged in the Seventh Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations;

p. For the Massachusetts Class, whether the alleged conspiracy violated Mass. Gen. Laws ch. 93A, §1 *et seq.* (the Massachusetts Consumer Protection Act), as alleged in the Eighth Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations; and

q. For the Minnesota Class, whether the alleged conspiracy violated Minn. Stat. §§ 325D.49 to 325D.66 (the Minnesota Antitrust Law of 1971), as alleged in the Ninth Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations.

r. For the North Carolina Class, whether the alleged conspiracy violated N.C. Gen. Stat. § 75-1, *et seq.* (the North Carolina Unfair Trade Practice Act), as alleged in the Tenth Claim for Relief, and the appropriate class-wide measures of damages and injunctive and related equitable relief for such violations.

54.55. Plaintiffs' claims are typical of the claims of the members of the Classes, and Plaintiffs will fairly and adequately protect the interests of the Classes. Plaintiffs and all members of the Classes were similarly affected by Defendants' wrongful conduct in that they were overcharged for FX Instruments purchased indirectly from Defendants and/or Defendants' co-conspirators.

55.56. Plaintiffs' claims arise out of the same common course of conduct giving rise to the claims of the other members of the Classes. Plaintiffs' interests are coincident with, and not antagonistic to, those of the other members of the Classes. Plaintiffs are represented by counsel who are competent and experienced in the prosecution of antitrust and class action litigation.

56.57. The questions of law and fact common to the members of the Classes predominate over any questions affecting only individual members, including legal and factual issues relating to liability and damages.

57.58. Class action treatment is the superior method for the fair and efficient adjudication of the controversy, in that, among other things, such treatment will permit a large number of similarly situated persons to prosecute their common claims in a single forum simultaneously, efficiently, and without the unnecessary duplication of evidence, effort and expense that numerous individual actions would engender. The benefits of proceeding through the class mechanism, including providing injured persons or entities with a method for obtaining redress for claims that

might not be practicable to pursue individually, substantially outweigh any difficulties that may arise in the management of this class action.

~~58.~~59. The prosecution of separate actions by individual members of the Classes would create a risk of inconsistent or varying adjudications, establishing incompatible standards of conduct for the Defendants.

FACTUAL ALLEGATIONS

I. OVERVIEW OF THE FX MARKET

A. Background

~~59.~~60. The FX market is the global financial market in which currencies are traded. It is the largest, most actively traded, and most liquid financial market in the world. Global FX trading grew from an average of \$1.9 trillion per day in April 2004 to \$5.3 trillion per day in April 2013. According to a report by the Bank for International Settlements (BIS), this rapid growth in trading volume was due in part to increased market participation by “the emergence of retail investors,” including individuals and smaller institutions.

~~60.~~61. There are over 200 different currencies used around the world, each with a distinct three-letter currency code used by FX traders. The ten most heavily traded currencies in the world—called the “Group of 10,” or “G10” currencies—are the U.S. dollar (USD), the Canadian dollar (CAD), the euro (EUR), the British pound (GBP), the Swiss franc (CHF), the New Zealand dollar (NZD), the Australian dollar (AUD), the Japanese yen (JPY), the Norwegian krone (NOK), and the Swedish krona (SEK).

~~61.~~62. The market for facilitating and executing FX trades is highly concentrated. A large majority of all FX trades are transacted by Defendants. Other market participants include smaller dealer banks, central banks, smaller commercial banks, credit card companies and their customers, non-financial corporations, insurance companies, investment funds, and individual investors.

~~62-63.~~ The FX traders employed by Defendants were part of a geographically and socially concentrated group. They lived in close proximity, attended the same social gatherings, and communicated frequently. The close social and professional ties among FX traders facilitated and provided incentives for the conspiracy alleged herein. As one former Citigroup trader acknowledged, “[t]his is a market in which price fixing and collusion could actually work.”

~~63-64.~~ FX trades may be conducted either over-the-counter (“OTC”) directly with another party, or on a centralized exchange. During the Class Period, approximately 98 percent of FX trading occurred OTC, and a majority of those trades involved one or more Defendants. The remaining 2 percent of all FX trades during the Class Period were made on U.S. exchanges.

~~64-65.~~ The OTC FX market is open and actively traded 24 hours a day during the week. The FX market opens Monday at 7 a.m. local time in New Zealand. One hour later, Sydney opens, followed by Tokyo, Hong Kong, and Singapore. Later, trading shifts to Europe, where the main financial centers are London, Frankfurt, Zürich, Geneva, Paris, and Milan. New York and London (the two largest FX trading centers) are open simultaneously for four hours, between 8:00 a.m. and 12:00 p.m. U.S. Eastern Time (“ET”), which is between 1:00 p.m. and 5:00 p.m. London time. The New York FX market is open from 8:00 a.m. ET to 5:00 p.m. ET, and London is open from 3:00 a.m. to 12:00 p.m. ET.

~~65-66.~~ FX market centers officially close at 5:00 p.m. local time, but the market does not close during the week because, except on Friday, the new trading day starts immediately in other cities. With the advent of electronic trading, it is possible to place FX trades over the weekends.

~~66-67.~~ Like the OTC market, trading on centralized U.S. financial exchanges is available 24 hours a day. The two most actively traded U.S. FX exchanges are the Chicago Mercantile Exchange (“CME”) and the Intercontinental Exchange (“ICE”).

~~67~~68. Currencies are bought or sold in “currency pairs” of two different currencies. The price to buy or sell a given currency pair is reflected by its exchange rate. For example, EUR/USD refers to the exchange rate for the purchase or sale of euros in exchange for U.S. dollars. In April 2013, the four most-traded currency pairs were EUR/USD (24.1 percent of all net FX trade volume), USD/JPY (18.3 percent), GBP/USD (8.8 percent), and AUD/USD (6.8 percent). Approximately 86.9 percent of daily FX trading in April 2013 had the U.S. dollar on one side of the currency pair.

~~68~~69. The advent of electronic FX trading has had a substantial impact on the FX market. Although large bank dealers such as Defendants still account for a large majority of all trades, electronic trading has enabled smaller companies and individuals to trade FX. Electronic trading also enabled traders to employ new FX trading strategies. Large, sophisticated traders have employed strategies such as rapid-fire arbitrage and algorithmic trading. Electronic trading also enhanced the ability of Defendants and co-conspirators to collusively manipulate FX benchmark rates, as alleged herein.

~~69~~70. Traders in the FX market engage in several types of transactions. According to the BIS, the four most common types of FX transactions are:

- a. **Spot transaction** – an agreement to exchange sums of currency at an agreed-upon exchange rate on a value date that is within two business days’ time;
- b. **Forward outright transaction** – an agreement to exchange sums of currency at an agreed-upon exchange rate on a value date that will be in more than two business days’ time;
- c. **Forward swap** – a spot transaction plus a forward outright transaction, at a different exchange rate and in the reverse direction; and
- d. **Currency option** – a “put” or a “call” option contract on a specified quantity of FX. A “put” option contract gives the owner the right to sell a specified quantity of currency at a specified exchange rate. A “call” option

contract gives the holder the right to buy a specified quantity of currency at a specified rate.

~~70.71.~~ In 2013, forward swaps accounted for 42 percent of the total FX trade volume. Spot transactions accounted for 38 percent, forward outright accounts for 13 percent, and currency options and other FX transactions accounted for 7 percent.

~~71.72.~~ Spot transactions occur in the private OTC market, which is dominated by Defendants. To initiate a spot transaction, a customer contacts a dealer bank, such as one of the Defendants, for a quote. These dealer banks are known as “market makers” or “liquidity providers.”

~~72.73.~~ A spot transaction occurs when one party contacts a dealer for a “bid-ask” quote on a designated quantity of currency, and the party accepts the dealer’s quote. The “bid” is the price at which the dealer is willing to buy a given quantity of currency, and the “ask” is the price at which the dealer is willing to sell the same quantity of currency. FX dealers provide exchange rate quotes on demand.

~~73.74.~~ Dealers generally provide quotes for USD and EUR to four decimal points, with the final digit known as a “percentage in point” or “pip.” For example, suppose EUR/USD is quoted 1.1952-1.1954 on \$10 million. The first number, 1.1952, is the bid, and the second, 1.1954, is the ask. The party receiving the quote can either sell \$10 million USD and receive €8,366,800.54 EUR (\$1.1952 per Euro) in exchange, or purchase \$10 million USD for €8,365,400.70 EUR (\$1.1954 per Euro).

~~74.75.~~ The difference between the bid and the ask is called the “bid-ask spread.” The bid-ask spread enables FX dealers to profit from FX trades by buying and selling FX at different exchange rates.

~~75.76.~~ FX traders can execute FX spot transactions by a direct telephone call, by sending an electronic request to a dealer, or through an electronic trading system. Electronic trading systems are computer trading platforms that customers can use to execute orders with dealers over a network. Electronic trading systems can be proprietary platforms operated by a single dealer, or a multi-bank platforms that allows customers to trade with multiple dealers. Major multi-bank FX trading platforms include Reuters, Bloomberg, EBS, Hotspot, and Currenex.

~~76.77.~~ Dealer banks employ salespeople to interact with customers through electronic platforms, electronic messages, and telephone calls. Dealer banks also employ FX currency traders to oversee bid-ask quotes and process trades. A dealer's salespeople and traders are in constant communication. Salespeople inform the traders of incoming potential orders, confirm bid-ask quotes, and convey orders to the trading desk for processing. Traders receive information about potential and pending trades before the trades are actually processed. Traders also record and analyze their customers' trading histories. As a result, dealers can often predict a customer's trading patterns, even before a customer places an order.

~~77.78.~~ Entities such as RFEDs that trade FX Instruments directly with dealer banks, such as Defendants, often resell those instruments to retail FX customers, such as individual and non-dealer entity customers, i.e., Plaintiffs. ~~These entities are often referred to as "FX brokers" or "retail foreign exchange dealers" ("RFEDs").~~ Retail FX customers such as Plaintiffs, trade FX Instruments with RFEDs for a variety of purposes, including long and short-term investing, portfolio diversification, and to hedge their foreign investments against risks of foreign currency fluctuations.

~~78-79.~~ Spot transaction exchange rates are the foundation for pricing of all FX Instruments. The prices for forward outright trades, forward swap trades, currency option contracts, and all other FX Instruments are all derived from the underlying FX spot rates.

~~79-80.~~ Because all FX transactions are affected by spot prices, Defendants' manipulation of benchmark spot rates had widespread effects on all FX transactions throughout the Class Period.

B. Benchmark Rates

~~80-81.~~ In placing FX spot trades, direct-purchaser customers often use what are called benchmark rates, daily fixing rates, or "Fixes." A Fix is a published exchange rate based on FX trades placed in a moment in time or a short interval of time. Several Fixes are published by private parties and central banks. To place an order at a Fix, a direct-purchaser customer gives an FX dealer instructions to buy or sell a quantity of currency at a specific Fix. The dealer guarantees execution at whatever rate the Fix is later posted.

~~81-82.~~ The Fixes have widespread effects on all FX transactions. Many businesses—including credit card companies, consumer banks, and credit unions—determine the rates at which they sell FX to their customers based on the Fixes.

~~82-83.~~ Prior to the publishing of the Fixes, customers will place orders with dealers to buy or sell a specific quantity of FX at a specified Fix. Because these orders are placed in advance of the fixing rates being published, dealers that accept spot trade orders at the Fixes are exposed to unexpected movements in currency prices.

~~83-84.~~ Dealers can take advantage of the interim between the time a customer places a fixing rate order and the time a Fix is published. If a dealer is able to buy the ordered quantity of currency at a price that is less than the fixing rate, the dealer profits from the customer's order. However, if a dealer pays more than the fixing rate, it loses money on the order.

~~84~~85. Because the Fixes are so widely recognized as benchmark rates in the FX market, they play a crucial role in FX trading and in the pricing of all FX Instruments.

1. WM/Reuters

~~85~~86. While there are a number of published Fixes available to FX market participants, the most widely used Fix is the WM/Reuters Closing Spot Rates (the “WM/Reuters Fix” or “4:00 p.m. Fix”), which are set at 4:00 p.m. London time (11:00 a.m. New York time). WM/Reuters is a joint venture between the WM Company (a wholly-owned subsidiary of State Street Corporation) and Thomson Reuters Corporation. The WM/Reuters Closing Spot Rates are widely used because they are set around the time when the FX market is most liquid – near the end of the trading day in London, while the New York market is also open. WM/Reuters calculates fixing rates for major currencies every half hour from 6:00 a.m. in Hong Kong/Singapore to 10:00 p.m. in the U.K., and they publish fixing rates for spot and forward transactions.

~~86~~87. WM/Reuters calculates the 4:00 p.m. Fix based on actual bids and offers placed on certain electronic trading systems during a one-minute window (“the fix period”). The fix period begins 30 seconds before 4:00 p.m. London time and ends 30 seconds after. WM/Reuters uses bids and offers placed on the Currenex, Reuters Dealing 3000, and EBS electronic trading systems.

~~87~~88. The consolidation of trading information and calculation of the 4:00 p.m. Fix rates is automated. Throughout the Class Period, WM/Reuters calculated the 4:00 p.m. Fix rates based on the median exchange rates of the FX transactions placed during the fix period, but the volumes of those trades placed during the fix period were not taken into account. This made the 4:00 p.m. Fix especially vulnerable to concerted manipulation.

~~88~~89. WM/Reuters also provides fix rates for FX forwards, which are published as premiums or discounts to the WM/Reuters spot rates. Thus, when the WM/Reuters Fix rates were manipulated by Defendants, WM/Reuters forward fix rates were also directly affected.

2. The ECB Rates

~~89.90.~~ The European Central Bank (“ECB”) reference rate provides FX spot rate Fixes for currency pairs that are traded against the euro. After the WM/Reuters Fixes, the ECB reference rates (“ECB Fix” or “1:15 p.m. Fix”) are the second-most widely used global FX benchmark rate.

~~90.91.~~ The ECB publishes the exchange rates for various euro-denominated currency pairs, as determined by the European Central Bank, based on FX spot trades placed at or around 1:15 p.m. GMT. For each currency pair, the ECB publishes one rate for the 1:15 p.m. Fix. The ECB Fixes are published on the ECB’s website shortly after they are calculated.

C. The FX Market Is Concentrated and Dominated by Defendants

~~91.92.~~ Beginning in the late 1990s, the FX market experienced a significant increase in concentration.

~~92.93.~~ Defendants dominated the FX market throughout the Class Period, and continue to do so today. In 2013, Defendants collectively controlled more than 90 percent of the global FX market. According to the 2012 and 2013 FX Surveys by industry publication EUROMONEY, the individual and aggregate shares of the global FX market for Defendants and their affiliated corporations in 2012 and 2013 were, respectively:

Defendant	2012 Market Share (Rank)	2013 Market Share (Rank)
Deutsche Bank	14.57% (1)	15.18% (1)
Citigroup	12.26% (2)	14.90% (2)
Barclays	10.95% (3)	10.24% (3)
UBS	10.48% (4)	10.11% (4)
HSBC	6.72% (5)	6.93% (5)
JPMorgan	6.60% (6)	6.07% (6)
RBS	5.86% (7)	5.62% (7)
Credit Suisse	4.68% (8)	3.70% (8)
Morgan Stanley	3.52% (9)	3.15% (9)
Goldman Sachs	3.12% (10)	2.75% (11)
BNP Paribas	2.63% (11)	2.52% (12)
Bank of America	2.41% (12)	3.08% (10)

SocGen	1.76% (13)	1.57% (13)
Standard Chartered	0.89% (18)	0.91% (17)
RBC	0.84% (19)	0.88% (18)
BTMU	0.24% (30)	0.31% (23)
Defendants' Aggregate Market Share:	90.86%	90.92%

~~93.94.~~ The FX market in the U.S. is even more concentrated and dominated by Defendants than the FX global market. According to the Federal Reserve Bank of New York, the top ten banks in April 2013 were responsible for 98 percent of all FX spot trade volume in the United States, and the top five banks alone accounted for 80 percent. According to the Foreign Exchange Committee's April 2012 survey of the North American FX market, the five largest FX dealers in North America had a 75 percent market share for spot transactions, and a 61.2 percent market share for all forward outright transactions. The next five largest dealers had a 17.7 percent market share for spot transactions and a 26.5 percent market share for forward outright transactions.

~~94.95.~~ Traders employed by Defendants have significant influence on the FX market. Collectively, these traders account for a substantial majority of all FX trades. Defendant traders are a small, interconnected group. Many have worked with one another in prior trading jobs, and traders frequently communicate and socialize with traders at other Defendant banks. The strong familiarity among traders facilitated Defendants' collusive conduct alleged herein.

D. The FX Market Is Susceptible to Collusion

~~95.96.~~ The global FX market lacks a central organizing body, making it one of the least regulated financial markets in the world. Most trading takes place in the OTC market, away from centralized exchanges.

~~96.97.~~ No centralized exchange or institution publishes real-time trade information for the OTC market. Defendants' proprietary dealing platforms allow their traders to view real-time

orders and trade volume data, but Defendants do not make this information available to private traders. Absent an agreement to collude, each individual Defendant would not have access to information about other Defendants' trade orders, and it would be in the economic interest of each Defendant to keep its own trade data confidential.

97-98. Based on trade volume and price information from FX trades, Defendants can analyze trading patterns, predict the direction of FX market movements, and exploit that information. A single dealer can only predict FX trading patterns if it has access to a large sample size of FX trading data. Private traders do not have this proprietary trading data, and are therefore unable to analyze and accurately predict FX trading patterns.

98-99. Defendants' ability to predict and exploit FX trading patterns substantially grows when they share confidential trade information with one another.

99-100. Throughout the Class Period, Defendants maintained internal accounts allocable to individual FX traders, sometimes called "P-books," that allowed traders to trade and speculate on FX with bank funds. Revenues generated in an individual trader account accrued to the benefit of the trader's employer bank, and those revenues were taken into account by Defendants for purposes of evaluating and determining each trader's performance, promotion potential, salary, and bonuses. Because aggregate trade data from multiple Defendants allows traders to predict and manipulate the movement of the market around the times of the Fixes, Defendants' maintenance of these "P-book" accounts incentivized traders to collude with traders at other Defendant dealers to manipulate FX rates.

100-101. The sharing of confidential customer FX information by FX traders violates the Federal Reserve Bank of New York's "Guidelines for Foreign Exchange Trading Activities."

However, throughout the Class Period, Defendants lacked adequate procedures and safeguards to prevent trader collusion.

~~101.~~102. Defendant traders involved in the sharing of confidential information to predict and manipulate FX exchange rates included high-level employees such as the former global head of FX cash trading at HSBC, the head of HSBC's FX cash trading operations for Europe, the global head of spot trading at Barclays, the director of emerging markets FX trading at Barclays, the director of emerging markets FX trading at BNP Paribas, the head of European spot FX trading at Citigroup, and the head of FX spot trading at JPMorgan. In several instances where Defendant supervisors were explicitly made aware that employees were sharing confidential customer information, Defendants took no disciplinary action or delayed disciplinary action until several years later, when Defendants' knowledge of this conduct was revealed to government investigators and the public.

~~102.~~103. The FX traders employed by Defendants are a small, highly interconnected group. Even at the largest banks, FX trading desks are typically staffed with less than ten traders, many of whom have worked previously with their counterparts in other banks.

~~103.~~104. With Defendants' dominant collective market share, a lack of government regulation, high barriers to entry, institutional incentives for traders to cheat, close social and professional ties among FX traders, and limited non-dealer access to pricing and trade information, the unique characteristics of the FX market make it highly susceptible to collusive activity. As a former Citigroup trader noted, "[t]his is a market in which price fixing and collusion could actually work."

II. DEFENDANTS CONSPIRED TO FIX FX PRICES

~~104.~~105. Beginning on or before December 1, 2007, Defendants conspired with one another to fix prices in the FX market on a daily basis. In furtherance of the conspiracy, Defendants manipulated the exchange rates of over two dozen of the most frequently traded currency pairs.

~~105.~~106. Defendants' conspiracy involved, *inter alia*: (1) the fixing of FX bid-ask spreads; and (2) the fixing of benchmark FX rates, including, but not limited to, the WM/Reuters Fixes and the ECB Fixes.

~~106.~~107. In furtherance of their conspiracy, Defendants: (1) created and participated in chat rooms and other forms of electronic communication; (2) shared confidential client and proprietary trading information with other Defendants involved in the conspiracy; (3) coordinated trades with other Defendants in order to illegally manipulate FX benchmark rates and spot rates; (4) monitored the trades placed by traders employed by co-conspirator Defendants in order to ensure compliance with the conspiracy; and (5) used code names, code words, and deliberate misspellings in efforts to evade detection.

~~107.~~108. As a result of Defendants' conspiracy, Plaintiffs and the members of the proposed Classes were injured in the form of overcharges on FX Instruments purchased indirectly from one or more Defendants or co-conspirators during the Class Period.

A. Defendants Conspired to Fix Prices and Carried Out the Conspiracy through Electronic Communications

~~108.~~109. Defendants' top-level traders held secret online meetings in chat rooms throughout the Class Period. Plaintiffs are aware of thousands of electronic communications made between traders employed by dozens of banks, including each Defendant, in which traders coordinated trades and exchanged information about orders, spreads, exchange rates, and Fixes. For example:

a. Bank of America participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), Japanese yen (JPY), Australian dollar (AUD), Swiss franc (CHF), and South African rand (ZAR).

b. Barclays participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), Japanese yen (JPY), Swiss franc (CHF), Australian dollar (AUD), Canadian dollar (CAD), Russian ruble (RUB), and South African rand (ZAR).

c. BNP Paribas participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), Japanese yen (JPY), Russian ruble (RUB), Mexican peso (MXN), and Thai baht (THB).

d. BTMU participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), Japanese yen (JPY), and Swiss franc (CHF).

e. Citigroup participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), Japanese yen (JPY), Australian dollar (AUD), New Zealand dollar (NZD), and South African rand (ZAR).

f. Deutsche Bank participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), the British pound (GBP), Japanese yen (JPY), Swiss franc (CHF), Australian dollar (AUD), New Zealand dollar (NZD), Canadian dollar (CAD), Russian ruble (RUB), South African rand (ZAR), Chinese yuan (CNY), Czech koruna (CZK), Hong Kong dollar (HKD), Singapore dollar (SGD), Turkish lira (TRY), Indonesian rupiah (IDR), Indian rupee (INR), and South Korean won (KRW).

g. Goldman Sachs participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), and Australian dollar (AUD).

h. HSBC participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), Swiss franc (CHF), Russian ruble (RUB), Mexican peso (MXN), and Thai baht (THB).

i. JPMorgan participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), and Swiss franc (CHF).

j. Credit Suisse participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), Australian dollar (AUD), Swiss franc (CHF), Czech koruna (CZK), and South African rand (ZAR).

k. Morgan Stanley participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), and Japanese yen (JPY).

l. RBC participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), Australian dollar (AUD), New Zealand dollar (NZD), Canadian dollar (CAD), Swiss franc (CHF), and Japanese yen (JPY).

m. RBS participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), Japanese yen (JPY), Swiss franc (CHF), Australian dollar (AUD), and New Zealand dollar (NZD).

n. SocGen participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), Australian dollar (AUD), Polish zloty (PLN), Brazilian real (BRL), Mexican peso (MXN), Chinese yuan (CNY), Israeli shekel (ILS), and Thai baht (THB).

o. Standard Chartered participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), Japanese yen (JPY), and Brazilian real (BRL).

p. UBS participated in chat rooms discussing the U.S. dollar (USD), euro (EUR), British pound (GBP), Japanese yen (JPY), Swiss franc (CHF), Australian dollar (AUD),

New Zealand dollar (NZD), Canadian dollar (CAD), Chinese yuan (CNY), Singapore dollar (SGD), South Korean won (KRW), and Taiwan dollar (TWD).

~~109~~110. The secret chat rooms were controlled by Defendants' top-level traders. Defendants referred to chat groups with names such as "The Cartel," "The Bandits' Club," "One Team, One Dream," "the 3 musketeers," "the A-team," "The players," "the Essex Express," and "The Mafia." The "Essex Express" focused on trading Japanese yen and included traders from UBS, Barclays, RBS, and BTMU. "The Mafia" included traders from Citigroup, Credit Suisse, and UBS. "The Cartel" included traders at Barclays, UBS, Citigroup, and JPMorgan.

~~110~~111. Defendant traders participating in these secret chat rooms shared their "positions"—the amount of a specific currency that they had orders to trade at the Fix—prior to the WM/Reuters Fix and other Fixes. For example, that was uncovered by the Commodities Futures Trading Commission ("CFTC") in its investigation into Defendants' conduct, traders at RBS, HSBC, and an undisclosed third bank shared their positions prior to 4:00 p.m., then congratulated each other on successfully manipulating the rate after the 4:00 p.m. Fix:

Trader	Time	Message
RBS	3:45:35 p.m.	im getting abt 80 quid now...fixing
HSBC	3:45:54 p.m.	my ny 100 quid
RBS	3:51:19 p.m.	getting more than u now [HSBC Trader] betty
HSBC	3:51:26 p.m.	ok thx
Bank W	3:52:23 p.m.	nice job gents
HSBC	3:54:16 p.m.	[RBS Trader], just matched with [Bank 1] and [Bank 2] for 100, still lhs in about 140
RBS	3:54:26 p.m.	Cool
Bank Z	4:00:58 p.m.	i don my hat
Bank W	4:01:08 p.m.	what a job
Bank Z	4:01:23 p.m.	welld one lads
Bank W	4:01:28 p.m.	Bravo
RBS	4:07:03 p.m.	1.6218..nice
HSBC	4:07:33 p.m.	worked ok that one

~~111~~112. Many of Defendants' FX traders participated in multiple chat rooms, allowing them to communicate with many other Defendants each day. For example, in several transcripts revealed by the CFTC, an HSBC trader participated in four separate chat rooms in the minutes leading up to the 4:00 p.m. Fix. First, the HSBC trader entered a chat room to disclose to traders at Barclays and other banks that he was a seller in "cable" (GBP/USD):

Trader	Time	Message
Barclays 1	2:50:21 p.m.	early days but im a seller cable at fix [. . .]
Bank S	3:11:43 p.m.	here also
Bank R	3:24:50 p.m.	u got much to do in fix [Bank Trader W]
Barclays 1	3:25:07 p.m.	im seller 130 cable that it [. . .]
Barclay 1	3:28:02 p.m.	hopefuly a fe wmore get same way and we can team whack it
Bank R	3:28:17 p.m.	ill do some digging [. . .]
Barclays 1	3:36:13 p.m.	im seller 170 gbp atmofix
Bank R	3:36:26 p.m.	we sellers of 40
HSBC	3:38:26 p.m.	lhs in cable at the fix
HSBC	3:38:29 p.m.	good amount [. . .]

As the 4 p.m. Fix period closed, the participants in the chat room congratulated each other:

Bank R	4:00:35 p.m.	well done gents
Barclays 1	4:01:56 p.m.	hooray nice team work
HSBC	4:02:22 p.m.	nice one mate

Prior to the Fix that same day, the HSBC trader participated in a separate chat room and conveyed the information he had learned in the first room to another Barclays trader:

Trader	Time	Message
HSBC	3:25:19 p.m.	get lumpy cable at the fix ok
Barclays 2	3:25:32 p.m.	ta mate
Barclays 2	3:25:35 p.m.	150 here
HSBC	3:25:46 p.m.	400 odd here
HSBC	3:25:50 p.m.	lets go
Barclays 2	3:26:00 p.m.	yeah baby
HSBC	3:26:03 p.m.	[Barclays Trader 1] is too [. . .]
Barclays 2	3:27:00 p.m.	sry thats the [Barclays] flow
Barclays 2	3:27:23 p.m.	[Barclays Trader 1] gets
HSBC	3:28:26 p.m.	so its 150 all day wiht you guys? [. . .]
Barclays 2	3:36:34 p.m.	170 here

As the 4 p.m. Fix period closed, the traders celebrated:

Trader	Time	Message
Barclays 2	4:01:03 p.m.	nice job mate
HSBC	4:03:34 p.m.	haha
HSBC	4:03:40 p.m.	i sold a lot up there
HSBC	4:03:46 p.m.	and over sold by 100
HSBC	4:03:48 p.m.	hahaha [. . .]
Barclays 2	4:04:06 p.m.	sweet nice job [. . .]
Bank W 2	4:05:04 p.m.	bravo

At the same time, the HSBC trader disclosed that he was selling at the Fix in yet another private chat with a trader at an unknown bank prior to the close of the Fix period:

Trader	Time	Message
HSBC	3:28:45 p.m.	lhs in about 300 quid cable for the fix
Bank V	3:28:54 p.m.	sweet
HSBC	3:29:42 p.m.	can you do some digging and see if anyone is that way
Bank V	3:29:52 p.m.	ofcourse mate
Bank V	3:34:49 p.m.	im getting 83 at mom mate
HSBC	3:34:56 p.m.	nice [. . .]
Bank V	3:37:38 p.m.	someone tells a guy here he is getting 170 cble at fix
Bank V	3:43:28 p.m.	see that [Bank U Trader]
HSBC	3:43:57 p.m.	thx

As the 4 p.m. Fix period ended, the traders continued:

Trader	Time	Message
Bank V	4:00:51 p.m.	have that my son
Bank V	4:00:52 p.m.	hahga
Bank V	4:00:56 p.m.	v nice mate
HSBC	4:04:53 p.m.	that worked nice mate
Bank V	4:05:44 p.m.	big time mate.

In a fourth chat room, the HSBC trader disclosed his position to traders at Barclays and other banks prior to the close of the Fix period. The traders shared information about the size and direction of the net orders at the Fix period:

Trader	Time	Message
Barclays 2	3:36:18 p.m.	see first seller now

Bank Z	3:36:48 p.m.	you gettingt betty3 on the mumble still [Barclays Trader 2] ?
Bank Z	3:36:51 p.m.	we have nowt
Barclays 2	3:36:56 p.m.	yep
Barclays 2	3:36:59 p.m.	170
Bank Z	3:37:05 p.m.	ta
Bank Z	3:37:21 p.m.	get it up to 60/70 then bash the fck out of it
HSBC	3:38:26 p.m.	lhs in cable at the fix
HSBC	3:38:29 p.m.	good amount
Bank Z	3:38:35 p.m.	ta [. . .]
Bank Z	4:00:28 p.m.	nice work gents

By participating in multiple chat rooms and sharing information, Defendants were able to amplify their influence on the FX market and successfully manipulate FX rates.

112-113. Defendants' traders that were involved in the conspiracy actively monitored the activity of other co-conspirator traders in order to ensure compliance. Traders that failed to comply with the conspiracy were threatened with punishment by other Defendant traders.

113-114. Only a select group of traders were allowed into the secret groups, and traders were highly protective of their membership. In a December 2011 chat room conversation uncovered by the CFTC, three Defendant traders discuss inviting another trader from Barclays into their chat group, called the "Cartel":

Trader	Time	Message
Matt Gardiner (UBS)	7:49:55 p.m.	are we ok with keeping this as is . . .
	7:50:27 p.m.	ie the info & risk sharing?
Rohan Ramchandani (Citigroup)	7:50:27 p.m.	Well . . .
Matt Gardiner (UBS)	7:50:30 p.m.	that is the qu[estion]
Rohan Ramchandani (Citigroup)	7:50:32 p.m.	you know him best obv . . .
	7:50:39 p.m.	if you think we need to adjust it
	7:50:43 p.m.	then he shouldn't be in chat
Richard Usher (JPMorgan)	7:50:54 p.m.	yeah that is key
	7:51:00 p.m.	simple question . . .
	7:51:08 p.m.	I trust you implicitly . . .
	7:51:13 p.m.	and your judgement
	7:51:16 p.m.	you know him
	7:51:21 p.m.	will he tell rest of desk stuff
	7:51:26 p.m.	or god forbid his nyk [New York office]

Rohan Ramchandani (Citigroup)	7:51:46 p.m.	yes
	7:51:51 p.m.	that's really imp[ortant] qu[estion]
	7:52:01 p.m.	don't want other nuptys in mkt to know
	7:52:17 p.m.	but not only that
	7:52:21 p.m.	is he gonna protect us
	7:52:33 p.m.	like we protect each other against our own branches
	7:52:46 p.m.	ie if you guys are rhs [right hand side, a code for buying the first currency listed in a currency pair] and my nyk is lhs [left hand side] . . . ill say my nick [New York office] lhs in few
Matt Gardiner (UBS)	7:53:52 p.m.	what concerns me is that i know he'll never tell us when at risk

After further discussion about whether the Barclays trader would “add huge value to this cartel,” the three traders agreed to invite the Barclays trader into the chat room for a “1 month trial,” although Citigroup trader Rohan Ramchandani warned the Barclays trader, “mess this up and sleep with one eye open at night.”

114.115. Defendants’ traders used the chat rooms to coordinate their trades in order to move exchange rates in directions that favored Defendants, to the detriment of non-conspirator market participants. Defendants used code names and words in the chat rooms in efforts to evade detection by governmental authorities. For example, one message uncovered by regulators from a chat room involving traders from HSBC and Barclays said: “You getting betty on the mumble still? We have nowt . . . Get it up to 60/70 then bash the fck out of it.” “Betty” in the message is a reference to Betty Grable, and Grable rhymes with cable – the term for USD/GBP trades. Traders in chat rooms also used nicknames to refer to each other. For example, in the chat group known to members as the “Cartel,” former RBS and JPMorgan trader Richard Usher was referred to as “Feston” because he resembled an overweight version of British chef Heston Blumenthal; Citigroup Rohan Ramchandani trader was called “Rugby,” and Barclays trader Chris Ashton was dubbed “Robocop.”

B. Defendants Conspired to Fix Bid-Ask Spreads

~~115.~~116. Beginning at least as early as December 1, 2007, as part of their conspiracy to fix prices in the FX market, Defendants conspired to fix the bid-ask spreads paid by customers for various currency pairs. As alleged above, there are thousands of electronic communications between traders at two or more Defendant banks discussing FX bid-ask spreads and colluding to manipulate FX rates.

~~116.~~117. Defendants quote bid-ask spreads directly to customers on demand throughout the trading day.

~~117.~~118. Through electronic communications, traders employed by Defendants and their co-conspirators exchanged information about bid-ask spreads and customer orders, and coordinated quotes and orders between banks. For example, in a November 4, 2010 chat, a Barclays trader discussed manipulating the USD/South African Rand rate with a JPMorgan trader, stating, “if you win this we should coordinate you can show a real low one and will still mark it little lower haha.” The JPMorgan trader acknowledged the illegality of their scheme, suggesting that they “prolly shudnt put this on perma chat.” The Barclays trader responded, “if this is the chat that puts me over the edge than oh well. much worse out there.” Weeks later, on November 17, 2010, the same Barclays trader entered a chat room and told traders at other banks to “show them way to the left . . . if they come here I will show them little worse . . . you win . . . and get them cheap.” Months later, in a chat room on February 25, 2011, the same Barclays trader coordinated with a trader at Standard Chartered to fix bid-ask spreads. The Standard Chartered FX trader asked “what bid you want me to show if somwone calls” and the Barclays trader responded “up to 02.” The Standard Chartered trader replied, “okok” and “ill let you know if we get asked.” Later that year, on June 10, 2011, the Barclays trader showed up in another chat room to tell other traders that “we trying to manipulate it a bit more in ny now . . . a coupld buddies of mine and I.”

~~118.~~119. Bid-ask spreads are a primary source of revenue for FX dealers, and in a competitive FX market, absent collusion, a profit-maximizing dealer would seek to gain customers and market share by beating the spreads offered by competitor dealers. On the other hand, a decision to increase bid-ask spreads would result in a loss of customers to dealers with more advantageous quotes. Customers want narrower spreads, allowing them to buy currency at lower prices and sell currency at higher prices. Only through coordinated price fixing could an FX dealer quote less desirable bid-ask spreads without losing market share.

C. Defendants' Conspiracy to Fix the Benchmark Rates

~~119.~~120. Beginning at least as early as December 1, 2007, Defendants conspired to manipulate the Fixes.

~~120.~~121. Defendants' traders carried out their conspiracy by communicating via chat rooms, instant messages, and email. Through these communications, Defendants regularly shared confidential pricing and order information before the Fixes. Armed with this shared confidential information, Defendants executed coordinated trading strategies designed to manipulate the Fixes.

~~121.~~122. Defendants' conspiracy was successful in manipulating the Fixes, allowing Defendants to earn supracompetitive profits to the detriment of non-conspirator traders, including Plaintiffs and members of the proposed Classes.

1. Defendants Shared Proprietary Trade Data In Order To Manipulate FX Benchmark Rates

~~122.~~123. Defendants regularly shared confidential customer trade data with traders employed at other Defendant dealers. Each Defendant compiled trade order data to determine the amount of currency that it needed to buy or sell at the Fixes. Defendants then shared that data with other Defendants through secret electronic communications, enabling each Defendant to predict and influence the movement of FX prices during and around the times of the Fixes.

~~123.~~124. Defendants' sharing of information allowed their traders to predict how the market would move around the times of the Fixes much more accurately than they could without the sharing of proprietary information.

~~124.~~125. The sharing of confidential customer FX information violates the Federal Reserve Bank of New York's "Guidelines for Foreign Exchange Trading Activities." Specifically, the Guidelines provide:

Confidentiality and customer anonymity are essential to the operation of a professional foreign exchange market. Market participants and their customers expect that their interests and activity will be known only by the other party to the transaction . . . and an intermediary, if one is used. It is inappropriate to disclose, or to request others to disclose, proprietary information relating to a customer's involvement in a transaction except to the extent required by law or upon the request of the appropriate regulatory body.

* * *

Staff should not pass on confidential and nonpublic information outside of their institution. Such information includes discussions with unrelated parties concerning their trades, their trading positions, or the firm's position. It is also inappropriate to disclose, or to request others to disclose, information relating to a counterparty's involvement in a transaction except to the extent required by law. Institutions should develop policies and procedures governing the internal distribution of confidential information. Trading room staff should take special precautions to avoid situations involving or appearing to involve trading on nonpublic information.

~~125.~~126. Rather than taking precautions to prevent the sharing of nonpublic information, as required by the Federal Reserve Guidelines, Defendants actively shared information about customers, transactions, pending orders, and other nonpublic data.

2. **Methods of Manipulating Benchmark Rates**

~~126.~~127. Defendants employed a number of strategies in collusively manipulating the Fixes. Defendants had various nicknames for these strategies, including "trading ahead," "front-running," "banging the close," "painting the screen," "netting off," "building," "giving the ammo," "taking the ammo," "taking out the filth," and "clearing the decks."

~~127.~~128. All of these strategies were accomplished by Defendants sharing confidential customer trade information with one another in order to gain anticompetitive advantage in the FX market and increase their chances of profiting from trades placed at the Fixes.

~~128.~~129. Defendants' traders engaged in a market manipulation strategy called "trading ahead" when their shared customer trade order data indicated that trades placed at and around the Fix would move FX rates in a particular direction. If the trade data indicates that trades placed around the Fix will cause a particular currency to rise in value, privy traders would order that currency in advance of the Fix, and/or sell after the Fix, and profit from the gains.

~~129.~~130. Entities that purchase FX directly from Defendants often place substantial FX orders at the Fixes hours before the Fixes are actually set. Sharing information about these upcoming trades allowed Defendants to predict the direction that the market would move for certain currencies.

~~130.~~131. Absent collusion, no single Defendant would have had sufficient trade data to profitably predict the movement of the market around the times of the Fixes. Although Defendants collectively dominated the market, no Defendant had sufficient market share to consistently and accurately project the direction of the market based solely on its own customer orders.

~~131.~~132. In order to avoid the risk of incorrectly guessing the direction of the market leading up to and after the Fix, Defendants regularly agreed through secret communications to collectively "front run" or "trade ahead," working together to sequence their customers' orders in order to push FX rates in a certain direction, then buying or selling the manipulated FX for a profit. Defendants employed this strategy to manipulate the WM/Reuters Fixes and the ECB Fixes.

~~132.~~133. In one detailed example of “front running” trader manipulation uncovered by the United Kingdom Financial Conduct Authority (“FCA”), an HSBC trader coordinated with co-conspirators at Barclays and other banks to manipulate the 4:00 p.m. Fix for GBP/USD by placing multiple smaller trades leading up to the Fix, then placing large trades at the Fix to take advantage of the manipulated rate. At around 3:30 p.m., the HSBC trader entered a chat room and told traders “Let’s go.” A trader at another bank replied “yeah baby,” then “hopefuulyl a fe wmore get same way and we can team whack it.” A third trader encouraged the second trader to “bask the fck out of it.” The first trader informed the HSBC trader that he had a deal with another bank, which was buying: “Taken him out . . . so shud have iot rid of main buyer for u . . . im stilla seller of 90 . . . gives us a chance.” HSBC ended up selling £70 million between 3:32 p.m. and the start of the Fix period. Those early trades were designed to take advantage of the expected downwards movement in the Fix rate following the discussions within the chat room. In that time period, the GBP/USD rate fell from \$1.6044 to \$1.6009. The HSBC trader then sold £311 million during the Fix period. HSBC, Barclays, and the two other banks involved in the chat room accounted for 63 percent of the volume of sales on the Reuters electronic trading platform that day. The 4:00 p.m. Fix price was \$1.6003, and HSBC’s profit in this trade was \$162,000. After the Fix, the four traders congratulated each other on a successful manipulation, chatting: “Nice work gent . . . I don my hat,” “dont mess with our ccy [currency],” “loved that mate . . . worked lovely . . . pity we coldn’t get it below the 00 [below \$1.6000],” and “we need a few more of those for me to get back on track this month.”

~~133.~~134. In another example of “front running” uncovered by the CFTC, traders from Barclays and HSBC discussed unloading positions just prior to the WM/Reuters Fix period, commencing at 3:54 p.m.:

Trader	Time	Message
Barclays	3:54:32 p.m.	can u let me know when are down to your last tenner
HSBC	3:55:02 p.m.	ok
HSBC	3:55:10 p.m.	i'm down to my last tenner
Barclays	3:55:17 p.m.	ok ta
Barclays	3:55:41 p.m.	just sold some more
HSBC	3:55:49 p.m.	hahaha
Barclays	3:55:51 p.m.	hehehe
Barclays	4:00:57 p.m.	nice on[e] son
HSBC	4:03:15 p.m.	learnt from a good fella
Barclays	4:15:43 p.m.	there u go
Barclays	4:16:48 p.m.	go early, move it, hold it, push it

134.135. In another example of “front running,” traders at JPMorgan and an undisclosed co-conspirator bank agreed to “join forces” and “double team” euro trades prior to the Fix:

Trader	Time	Message
Bank W	3:46:53 p.m.	i'd prefer we join forces
JPMorgan	3:46:56 p.m.	perfick 3:46:59 lets do this
JPMorgan	3:47:11 p.m.	lets double team them
Bank W	3:47:12 p.m.	YESssssssssss

By the 4:00 p.m. Fix, JPMorgan had built orders of €278 million, while the other trader's orders totaled €240 million. JPMorgan bought €57 million in the two minutes before the Fix window, attempting to take advantage of the expected upwards movement in the Fix rate following the discussions within the chat room. During the Fix calculation period, JPMorgan bought €134 million and the other trader bought €125 million. Between the two banks, they accounted for 41 percent of all EUR/USD trading at the Fix. JPMorgan's profit in this trade was \$33,000. Shortly after the fixing window, the traders congratulated themselves:

Trader	Time (U.S. Eastern)	Message
Bank W	4:03:25 p.m.	sml rumour we haven't lost it
JPMorgan	4:03:45 p.m.	we
JPMorgan	4:03:46 p.m.	do
JPMorgan	4:03:48 p.m.	dollarr

~~135.~~136. Defendants also engaged in a market manipulation strategy that they referred to as “banging the close.” “Banging the close” refers to traders breaking large FX orders into multiple smaller trades, in order to artificially inflate the Fixes.

~~136.~~137. Because the WM/Reuters Fixes were based on the median of spot rates for trades placed during the calculation window, but the volume of each trade was not taken into account, the WM/Reuters Fixes were particularly vulnerable to collusive manipulation by Defendants. By splitting large trades into multiple smaller trades, Defendant traders working in conjunction could manipulate the median exchange rates of trades made during the WM/Reuters calculation window, thereby manipulating the WM/Reuters Fix.

~~137.~~138. Defendants also employed these strategies, including “front running” and “banging the close,” to manipulate the ECB Fixes.

~~138.~~139. In one example of “banging the close” in a chat room transcript uncovered by the FCA, Citigroup had net buy orders of €200 million and stood to benefit if it was able to move the ECB Fix rate upwards. The Citigroup traders were able to “build” this order by gathering information about euro orders from other co-conspirator banks. Traders at the other banks agreed to transfer their buy orders to Citigroup, and with these additional trades, Citigroup traders accumulated €42 million in total buy orders. In the 15 seconds before the ECB fix, Citigroup placed four buy orders of increasing size and price, which were priced at a level above the prevailing offer price. According to the FCA, Citigroup’s trading in this case generated a profit of \$99,000.

~~139.~~140. The converse of “banging the close” was called “clearing the decks.” By combining small trades into a lesser number of large trades, Defendant traders could manipulate the WM/Reuters and ECB Fixes by artificially decreasing the number of trades placed during the

calculation windows for the Fixes, thereby manipulating the median exchange rates of trades made during those windows.

~~140.~~141. The FCA uncovered a specific example of an RBS trader working with other banks to manipulate the WM/Reuters GBP/USD Fix by “clearing the decks” on a day when the RBS trader had net client sell orders at the Fix and would benefit if it was able to manipulate the 4:00 p.m. Fix rate lower. In advance of the Fix, the RBS trader shared information about its Fix orders with other traders in a chat room, and the traders worked to combine, or “net off,” their trades by transferring their trades to other dealer banks and combining them into larger trades. In a separate chat room, RBS told three other traders: “We getting a lot Betty at fix” referring to GBP/USD. In the period leading up to the 4:00 p.m. Fix, RBS built up £399 million to sell at the Fix, which was designed to take advantage of the expected downward movement in the Fix rate following the discussions within the chat room. RBS made \$615,000 in profit on this trade.

~~141.~~142. In another “clearing the decks” example, traders at RBS and other banks agreed to share “ammo” and combine their small trades into one large trade to manipulate the Australian dollar and New Zealand dollar:

Trader	Time	Message
Bank T Trader	3:43:32 p.m.	buying aud and nzd at the fix
RBS Trader	3:43:43 p.m.	Tkx
Bank T Trader	3:43:52 p.m.	ntg big
RBS Trader	3:43:59 p.m.	Im buying 50 aud can do yours if you want
Bank T Trader	3:45:13 p.m.	ok . . .60 plse . . .****
RBS Trader	3:45:56 p.m.	Great
Bank P Trader	3:50:00 p.m.	I need to buy 25 aud at the fix too.. any int? more ammo for you...?
RBS Trader	3:50:21 p.m.	Sure [Bank P Trader]
Bank P Trader	3:51:24 p.m.	cool all yours [RBS Trader]
RBS Trader	3:51:46 p.m.	Buying 220 now
Bank P Trader	3:51:57 p.m.	good luck
Bank T Trader	3:52:20 p.m.	load up your 50 offrs . . .
Bank P Trader	3:53:14 p.m.	ill do those ones if you want
RBS Trader	3:53:19 p.m.	haah

Trader	Time	Message
Bank T Trader	3:53:20 p.m.	ur fkg [RBS Trader], ramp it
Bank T Trader	4:00:41 p.m.	nice one *****
Bank P Trader	4:00:56 p.m.	look at you! . . . well done mate . . .

~~142.143.~~ Defendants also manipulated the WM/Reuters Fixes by placing phony orders with one another during the WM/Reuters calculation window.

D. Other Conduct in Furtherance of the Conspiracy

~~143.144.~~ In addition to fixing bid-ask spreads and the WM/Reuters and ECB Fixes, Defendants engaged in other illegal conduct in furtherance of the conspiracy by manipulating limit orders and triggering stop-loss orders.

~~144.145.~~ A stop-loss order is an order placed with instructions to buy or sell FX once the currency reaches a certain price. A stop-loss order is designed to limit an investor's loss on a currency position by allowing the investor to expressly limit their loss to a certain amount.

~~145.146.~~ When a customer places a stop-loss order to buy FX, the dealer can profit if it purchases the currency for a rate less than the price at which the customer has agreed to pay. If a customer places a stop-loss order to sell, the dealer can profit if it sells the FX for a higher average rate than the rate at which it buys the FX from the customer.

~~146.147.~~ Defendants frequently colluded to manipulate FX Fixes in order to move the rates towards levels that would trigger stop-loss orders and force customers to buy or sell.

III. DEFENDANTS' CONSPIRACY IMPACTED INDIRECT PURCHASES OF FX INSTRUMENTS

~~147.148.~~ Defendants' collusive manipulation of FX spot prices and benchmark rates significantly impacted prices throughout the market for FX Instruments, including prices for spot FX Instruments paid by Plaintiffs and members of the proposed Classes.

~~148.149.~~ Plaintiffs and members of the proposed Classes purchased FX Instruments directly from entities RFEDs that are members of the preliminarily-certified Direct Settlement

Class in *FOREX*, in transactions where the ~~members of the Direct Settlement Class~~ RFEDs purchased those FX Instruments directly from one or more Defendants or co-conspirators. Because members of the Direct Settlement Class are allowed to recover overcharge damages regardless of whether they passed on those overcharges to their customers (under the *Illinois Brick* “direct purchaser rule” for federal antitrust claims), Plaintiffs and members of the proposed Classes bring this action under state *Illinois Brick* repealer statutes and related state consumer protection statutes to recover the overcharge damages that were directly passed on to them by members of the Direct Settlement Class. Analyses performed by Plaintiffs’ expert confirm that the manipulated and supracompetitive overcharge that the RFED members of the Direct Settlement Class paid to Defendants for FX Instruments was passed on to Plaintiffs and members of the proposed Classes, and that there is no other person or entity that exists in the causal chain between the RFEDs and Plaintiffs and members of the proposed Classes.

~~149.—Many members of the Classes proposed here, including Plaintiffs James Contant, Sandra Lavender, Victor Hernandez, Martin Han Tran, FX Primus Ltd., Carlos Gonzalez, Ugnius Matkus, Charles G. Hitchcock III, Jerry Jacobson, Tina Porter, and Paul Vermillion, purchased FX Instruments indirectly from Defendants and Defendants’ co-conspirators through FX brokers. FX brokers, also known as retail foreign exchange dealers, allow customers to trade various types of FX Instruments directly with the broker. To purchase an FX Instrument from an FX broker, a customer sends an order electronically or by phone to the FX broker for an FX Instrument with a specific currency pair, exchange rate, and volume. If the FX broker accepts the trade, the customer pays the agreed-upon rate, often with an additional fee or commission determined by the broker, and the broker places the FX Instrument in the customer’s account. Upon receipt of an order from a customer, in order to hedge or cover its exposure on the resulting FX Instrument, the FX broker~~

~~concurrently executes an FX Instrument with an FX dealer such as a Defendant with the same volume and currency pair as the FX Instrument that the FX broker sells to the customer. Thus, the FX broker concurrently purchases an FX Instrument from an FX dealer and then resells that FX Instrument to the customer. By executing matching, back-to-back FX Instrument transactions with an FX dealer and the FX broker's customer, the broker is able to cover its exposure on customer transactions and avoid losses associated with fluctuations in FX rates. In this scenario, the FX broker is a direct purchaser of an FX Instrument from a Defendant or co-conspirator, and the customer is an indirect purchaser.~~

150. FX brokers generally receive quotes from several liquidity providers for each currency pair that they offer to their customers. The liquidity providers provide bid-ask quotes for FX spot transactions to the FX brokers, and the FX brokers offer those quotes to their customers, often with some additional markup determined by the brokers. During the Class Period, all sixteen Defendants were liquidity providers for one or more FX brokers with whom Plaintiffs and members of the proposed Classes transacted. As a result of Defendants' conspiracy alleged herein, FX brokers paid supracompetitive prices for FX Instruments purchased directly from Defendants and Defendants' co-conspirators, and those overcharges were passed on by the FX brokers to their customers, including Plaintiffs and members of the proposed Classes. Some entities, such as RFEDs, trade FX Instruments directly with dealer banks, such as Defendants, to resell those FX Instruments to indirect purchaser customers (often referred to as "retail customers") such as Plaintiffs and members of the proposed Classes. Retail FX customers trade FX Instruments with RFEDs for a variety of purposes, including long and short-term investing, portfolio diversification, and to hedge their foreign investments against risks of foreign currency fluctuations.

151. Members of the Classes proposed here, including all named Plaintiffs purchased FX Instruments indirectly from Defendants and Defendants' co-conspirators by purchasing FX Instruments from RFEDs that purchased them from Defendants and their co-conspirators.

152. As direct purchasers of FX Instruments from Defendants and Defendants' co-conspirators, RFEDs are members of the Direct Settlement Class.

153. The dealer banks, such as Defendants, that sell FX Instruments to RFEDs for resale to indirect purchaser customers, such as Plaintiffs, are often referred to as "liquidity providers." The liquidity providers, many of which are Defendants, provide real-time quotes to the RFEDs, and the RFEDs use those quotes to set the price paid by Plaintiffs as retail FX customers, to whom Defendants' illegal overcharge is passed on.

154. Numerous Defendants were liquidity providers for RFEDs both during the Class Period and today. Those liquidity provider relationships are actively promoted to Plaintiffs and the Class members by the RFEDs. For example:

- FOREX.com's liquidity providers include Defendants JPMorgan, UBS, and Citigroup;⁶
- FXCM's liquidity providers include Defendants Barclays, Citigroup, Deutsche Bank, UBS, and Morgan Stanley;⁷ and
- OANDA's liquidity providers include Barclays, Bank of America, BTMU, BNP Paribas, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, JPMorgan, Morgan Stanley, RBS, SocGen, Standard Chartered, and UBS.⁸

⁶ *FDM Public Disclosures*, <https://www.forex.com/~media/forex/files/terms-and-conditions/us/fdm-disclosure-01252018.pdf> (last accessed Apr. 5, 2018).

⁷ *FXCM Liquidity Providers*, <https://www.fxcm.com/uk/about-fxcm/liquidity-providers/> (last accessed Apr. 5, 2018).

⁸ *Regulatory Public Disclosures*, <https://www.oanda.com/resources/legal/united-states/legal/regulatory-public-disclosures> (last accessed Apr. 5, 2018).

155. RFED purchases account for a significant portion of Defendants' FX business; therefore, Defendants were clearly aware that the Conspiracy would injure RFED customers including Plaintiffs and members of the Classes.

156. The RFEDs with whom Plaintiffs transacted employed a straightforward pricing model in which the RFED purchased the FX Instrument from a liquidity provider (Defendant) and resold that same FX Instrument to the retail customer (Plaintiff) for a price that is equal to the amount that the RFED paid to the Defendant, plus a retail markup. Therefore, the RFEDs' pricing model mathematically incorporates the price at which the RFEDs purchases the spot FX Instrument from a Defendant into the price at which the RFED sells the spot FX Instrument to the retail FX customer Class member.

157. Under that model, the RFED received real-time bid-ask quotes from several dealer bank "liquidity providers," most of which are Defendants.

158. The chain of causation from Defendant-induced FX price distortions to retail FX prices is direct, strong, and inevitable. The bid and ask prices offered by RFEDs to their retail FX customers (including Plaintiffs and members of the Classes) are set by a computer algorithm and move one-for-one with the prices quoted by dealer banks (including Defendants and their co-conspirators). As alleged herein, those dealer prices were illegally manipulated by the Conspiracy throughout the Class Period.

159. An RFED determines the bid and ask prices offered to their retail FX customers using a computer algorithm that takes in bid/ask quotes from liquidity providers (including Defendants), selects the best bid and ask prices from those quotes, and calculates prices for retail FX customers (such as Plaintiffs and members of the Classes) by taking those best-available

liquidity provider quotes and adding (for the ask) or subtracting (for the bid) a spread (the “retail spread” or “markup spread”) to those bid and ask quotes, i.e., the RFEDs’ retail markup.

160. When retail FX customers, such as Plaintiffs, purchase an FX Instrument from a Direct Settlement Class member, such as an RFED, where the RFED is their counterparty for purposes of the transaction, no other person or entity stands between the retail FX customer, such as Plaintiffs, and the RFED. For each retail FX Instrument purchase, for which Plaintiffs alleges damages, there is a principal-to-principal transaction between the retail FX customer (Plaintiff) and the RFED, and a matching principal-to-principal transaction between the RFED and the liquidity provider-Defendant.

161. An RFED’s computer algorithm sets the bid and ask prices in three steps which, as alleged below based on statistical analyses performed by Plaintiffs’ expert, results in a nearly perfect correlation between (a) the price paid for the manipulated FX Instrument by an RFED-Direct Settlement Class Member to a liquidity provider-Defendant that is then passed on to Plaintiffs and the proposed Classes, as follows:

Step 1: The RFED receives live electronic bid and ask quotes from its Defendant liquidity providers.

Step 2: The RFED’s algorithm compares the Defendant liquidity providers’ quotes and selects the best bid and ask prices, i.e. the prices with the narrowest spread.

Step 3: The RFED’s algorithm sets prices for retail FX customers by taking the best bid and ask prices available from the Defendant liquidity providers and adding to (for the ask) or subtracting from (for the bid) a “markup spread.” Those retail prices are posted on the RFED’s website and updated in real time. When a retail FX customer purchases an FX Instrument from the RFED, they pay the price that is quoted on the RFED’s website at the moment the transaction is executed.

162. When retail FX customers, such as Plaintiffs, purchase an FX Instrument from an RFED, two matching transactions are concurrently executed: (1) the RFED purchases the FX Instrument from the liquidity provider, such as Defendants, paying the best “Ask” price quoted by

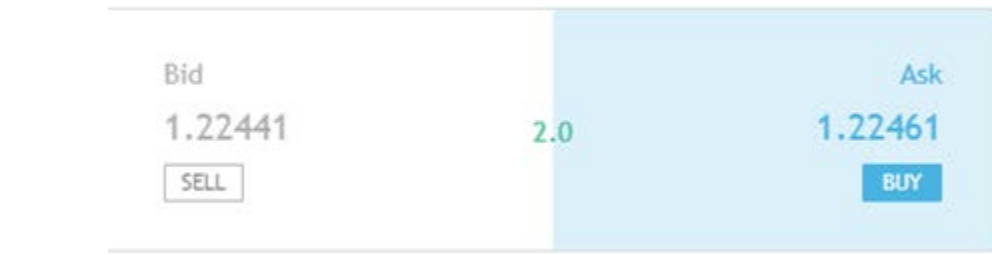
the liquidity provider at the time of purchase, and (2) the retail FX customer purchases the FX Instrument from the RFED, paying that exact same price, plus an additional retail spread charged by the RFED. The entire liquidity provider (Defendant) to RFED (Direct Settlement Class Member) to retail FX customer (Plaintiff) transaction takes less than a second to complete. Both steps are counterparty-to-counterparty transactions; therefore, the RFED is the direct purchaser and the Class member is the indirect purchaser with no intervening individuals or entities between the RFED-Direct Settlement Class Member and retail FX customer-Plaintiff.

163. Depending on the RFED, the amount of the markup may be fixed based on the currency pair, or it may be calculated as a multiple of the best bid-ask spread quotes that the RFED receives from its liquidity providers. But for all RFEDs, the FX Instrument price paid by the retail FX customer is equal to the price that the RFED paid to purchase the FX Instrument from the liquidity provider, plus the retail spread charged by the RFED. This straightforward mathematical relationship means that any anticompetitive overcharge incurred in a Defendant-to-RFED transaction is necessarily passed on to the Plaintiff or Class member retail purchaser in the matching RFED-to-Class member transaction.

~~150.~~164. Each RFED's algorithm works continuously (in essence, 24 hours a day, 7 days a week). Because dealer prices change at high frequencies, RFED prices also change very frequently: indeed, on FOREX.com, FXCM, and OANDA—where prices are posted publicly in real time—prices often change many times per second.

165. For example, in Figure 1, where a customer of FOREX.com wants to purchase 100 euros (EUR 100) with U.S. dollars (USD) and FOREX.com is quoting the following bid and ask prices:⁹

Figure 1: Illustrative EUR/USD retail FX prices taken from FOREX.com.



166. In this example, the “Bid” price of 1.22441 is the number of USD that FOREX.com is willing to pay to buy one EUR, or equivalently the price at which a retail FX customer can sell one EUR to FOREX.com. The “Ask” price of 1.22461 is the number of USD that FOREX.com is willing to accept in exchange for one EUR, or equivalently the price at which a retail customer can buy one EUR from FOREX.com. The retail bid-ask spread (or “retail spread”) quoted by FOREX.com is 0.0002 or 2.0 “pips.” The retail market mid-quote (i.e. the average of the bid and the ask) at this moment, 1.22451, would be essentially the same as the dealer bank mid-quote, as shown by the statistical analysis described below. The dealer bank bid-ask spread would normally be smaller than the retail spread; with a dealer bank spread of 1 pip, the dealer bank bid and ask would be 1.22446 and 1.22456. Throughout the Class Period, all RFEDs that Plaintiffs and the Class members transacted with—including the other two largest U.S. RFEDs, FXCM and OANDA—employed the same straightforward pricing model as the FOREX.com model, as alleged herein. To the extent that those RFEDs sold FX Instruments to other customers using pricing models that did not follow the Defendant-to-RFED-to-Class member model described

⁹ These FOREX.com images are screenshots from FOREX.com’s online trading platform. See <https://webtrading.forex.com> (last accessed Mar. 20, 2018).

herein, those customers are excluded from the proposed Classes, which limit Class membership to persons who purchased FX Instruments that followed that model. Additionally, because the Classes proposed here are limited to persons who purchased an FX Instrument from a Direct Settlement Class member where that Direct Settlement Class member purchased the FX Instrument from a Defendant or co-conspirator, with respect to RFED transactions, Plaintiffs are only seeking damages where the RFED's liquidity provider was a Defendant or co-conspirator.

167. The amount of the RFED markup on a purchase of an FX Instrument can be determined by subtracting the amount paid by the RFED to its liquidity provider from the amount paid by the retail customer to the RFED. For instance, if the price paid by the RFED to the liquidity provider in the above example was 1.22451, and the customer paid the "Ask" price of 1.22461, the retail markup is 0.00010, or 1 pip.

168. As described above, the Conspiracy directly affected the prices charged by Defendants for spot FX Instruments sold to direct purchasers including RFEDs, meaning the prices set on the electronic platforms for spot FX Instruments where Defendants and other dealer banks trade. Those dealer bank spot FX prices were used by RFEDs to set retail spot FX prices. Therefore, the distortions in dealer prices due to the Conspiracy were passed through one-for-one to RFED prices.

169. Consider a scenario in which the dealer mid-quote (the average of the bid and ask prices) for EUR/USD rises from \$1.2000/€ to \$1.2005/€ a rise of 5 pips, where that price increase is due to Defendants' manipulation as part of the Conspiracy. Suppose also that the dealer and spread is 1 pip and the retail spread is 2 pips. So the retail bid/ask begins at 1.19990/1.20010 (a spread of 2 pips), and the dealer bid/ask begins at 1.19995/1.20005 (a spread of 1 pip). When the dealer bid-ask rises 5 pips, the algorithm used to determine retail bid-ask prices automatically

incorporates that increase. So the dealer bank bid/ask moves to 1.20045/1.20055, and in turn, the retail bid/ask moves to 1.20040/1.20060. Defendants' price manipulation causes the dealer bank price to increase by 5 pips, and the retail price increases by the exact same amount. If a retail FX customer purchases an FX Instrument from an RFED immediately after the 5-pip increase, the RFED purchases the FX Instrument from a dealer-Defendant at the dealer-Defendant ask price of 1.20055, which is 5 pips higher than the price would have been but-for the anticompetitive price increase, and the RFED's retail FX customer purchases the FX Instrument from the RFED at the retail ask price of 1.20060, which is also 5 pips higher than the price would have been but-for the Conspiracy. Accordingly, the entire amount of the anticompetitive overcharge incurred in the dealer Defendant-to-RFED transaction is passed on to the retail FX customer-Plaintiff in the matching RFED-to-retail customer transaction. In this example, the retail FX customer's damages incurred due to the Conspiracy is equal to 5 pips multiplied by the number of units that the customer purchased.

170. The above example demonstrates how any anticompetitive overcharge incurred by the RFED is necessarily passed on to the retail FX customer. In every transaction where a Defendant sold an FX Instrument to an RFED and the RFED in turn sold that FX Instrument to a Class member, the price paid by the RFED is fully incorporated into the price paid by the Class member. Therefore, any anticompetitive overcharge contained in the price paid by the RFED to the Defendant is directly passed on by the RFED to the Class member. Because any overcharges paid by the RFED to the Defendant are passed on to the retail FX customer, such as Plaintiffs, it is impossible for the RFED to "absorb" any anticompetitive overcharge caused by the Conspiracy.

171. Because the prices charged by RFEDs are determined based on the prices charged by Defendants, RFED pricing should be highly correlated with Defendants' pricing for spot FX

Instruments. Plaintiffs' expert performed an economic analysis utilizing actual pricing data during the Class period, as described below, which confirms that, in fact, that correlation exists to near statistical perfection.

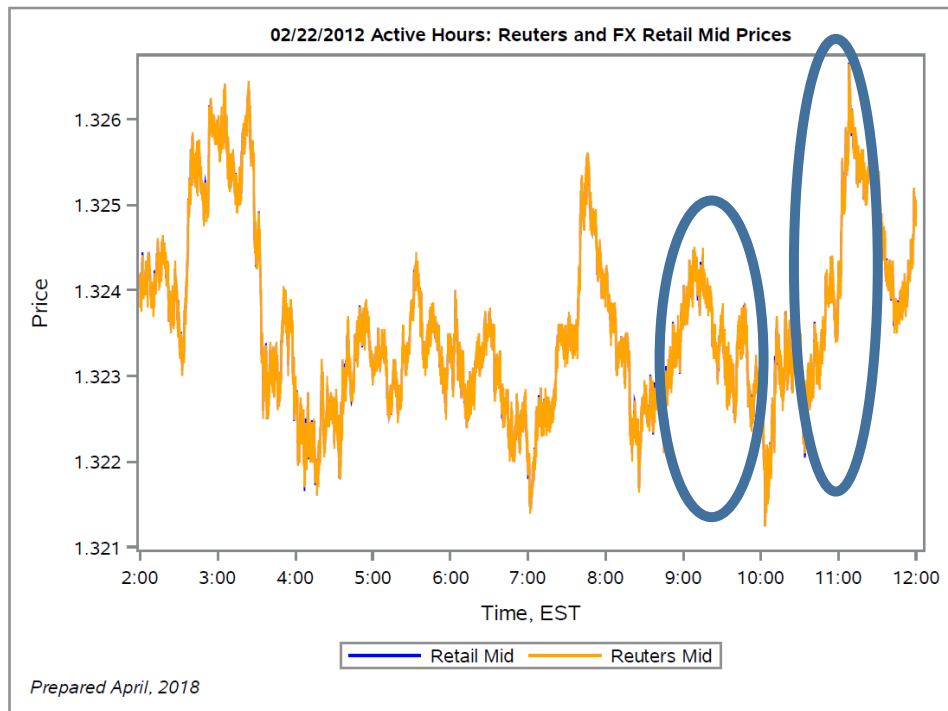
172. By way of example, to demonstrate the actual extent of that correlation, Plaintiffs' expert prepared the figures and analyses described below comparing the EUR/USD spot FX Instrument prices from FOREX.com (currently the world's largest RFED) with the EUR/USD spot FX Instrument prices from the "Reuters Tick History" database for February 2012. The FOREX.com data is comprised of actual bid/ask quotes that were posted on FOREX.com and made available to retail FX customers including Plaintiffs and members of the proposed Classes during the Class Period. The Reuters data is comprised of the best-available quotes from the major dealer bank trading platforms—including EBS, Reuters Matching, Reuters Dealing, and others—updated at high frequencies. Because Defendants collectively dominate more than 90% of the FX dealer market, a substantial portion of those quotes are direct quotes from Defendants.

173. The analyses conducted by Plaintiffs' expert confirm that the spot FX Instrument prices charged by Defendants to RFED Direct Settlement Class members (which were manipulated due to the Conspiracy) are nearly perfectly correlated with the prices at which Plaintiffs purchased those same FX Instruments from the RFEDs. For example, the comparisons below focus on pricing data from FOREX.com during its most active hours, which roughly coincide with London business hours, during February 2012, which falls within the Class Period.

174. A comparison of FOREX.com's pricing with the Reuters pricing shows that the two price series are highly correlated. For example, Figure 2 shows both retail FX prices (FOREX.com) and Reuters prices during active trading hours of February 22, 2012. The two prices move so closely together that the viewer typically cannot see both series. In Figures 2 and

3 below, the retail (i.e., RFED) price is represented by a blue line and the Reuters (i.e., dealer banks including Defendants) price is represented by a gold line. The two prices are so nearly perfectly correlated for the entire period that in just a few instances does the blue line appear as a speck where it is not otherwise completely overlaid by the gold Reuters line. As such, Figures 2 and 3 depict correlated prices to near perfection.

Figure 2: Reuters and Retail (FOREX.com) EUR/USD prices on February 22, 2012

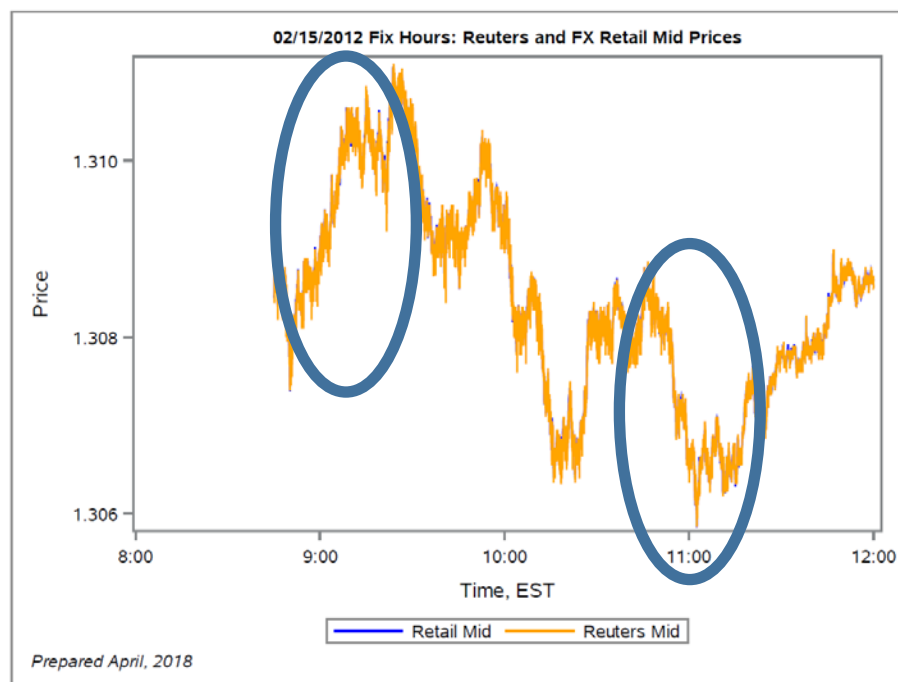


175. The blue oval on the right in Figure 2 demonstrates the price movements around the time of the WM/Reuters Fix, and the blue oval to the left of that shows the price movements around the time of the ECB Fix. The graph shows that, based on the statistical analysis performed by Plaintiffs' expert, the retail FX prices charged by RFEDs to the Plaintiffs move in near-perfect correlation with anticompetitive prices charged by the Defendant liquidity providers to the RFEDs, even around the times of the Fixes when prices are more volatile. Therefore, any increase in the

benchmark rates due to the Conspiracy would have caused retail FX prices to increase in the same amount.

176. Figure 3 below further demonstrates, based the statistical analysis performed by Plaintiffs' expert, that the retail prices move one-for one with the Reuters prices that were distorted by the Conspiracy during the Class Period. If the Defendants' quotes are distorted upwards, for example, the RFED quotes that are determined based on Defendants' quotes will adjust upwards by the same amount within a small fraction of a second. Figure 3 demonstrates that retail (i.e., RFED) and Reuters (i.e., dealer banks including Defendants) prices move very closely even during volatile Fixes such as the price movements that occurred on, for example, February 15, 2012, around the ECB and WM/Reuters Fixes. Those close links are also apparent in Figure 2 which shows the price movements around the times of the Fixes on February 22, 2012.

Figure 3: Reuters and Retail (FOREX.com) EUR/USD prices around the ECB and WM/Reuters Fixes on February 15, 2012



177. Again, the blue oval on the right in Figure 3 shows the price movements around the time of the WM/Reuters Fix, and the blue oval to the left of that shows the price movements around the time ECB Fix. The graph shows that retail (i.e., RFED) prices move in near-perfect correlation with Reuters prices even when prices are more volatile such that it is almost impossible to distinguish between the two lines depicted in Figure 2 as the gold line (Reuters) overlays the blue line (Retail), to near perfection.

178. A correlation analysis performed by Plaintiffs' expert further demonstrates the links between retail and dealer bank prices. Correlations can range from -1 to +1, and a value of +1 means the two series move perfectly together. A raw (Pearson's) correlation analysis¹⁰ comparing contemporaneous prices in the two settings during active trading hours in February 2012 shows that the estimated correlation between retail and Reuters prices is 0.99997. That extremely high correlation coefficient means that the two series move almost perfectly in unison, as one would predict given their mathematical relationship.

179. A regression analysis, performed by Plaintiffs' expert, further demonstrates the close connection between the retail and Reuters prices. Plaintiffs' expert conducted a regression analysis with those same two price series, regressing minute-by-minute proportionate changes in the FOREX.com quotes on proportionate changes in the Reuters quotes. Explanatory power in the regression model is measured as the regression's "R-squared," a statistic that ranges from 0.0 (zero explanatory power or, in this case, no link at all between retail and wholesale prices) to 1.0 (100% explanatory power or, in this case, wholesale price moves are the only thing that drive retail price moves and all residuals are zero). Plaintiffs' expert's regression results show an R-squared statistic

¹⁰ Correlation coefficients are used in statistical analysis to measure how strong a relationship is between two variables. A Pearson's correlation is a correlation coefficient commonly used in analyses such as that performed by Plaintiffs' expert.

of 0.80, a figure that is high by any standards and, according to Plaintiffs' expert, particularly high for an analysis of financial-price changes.

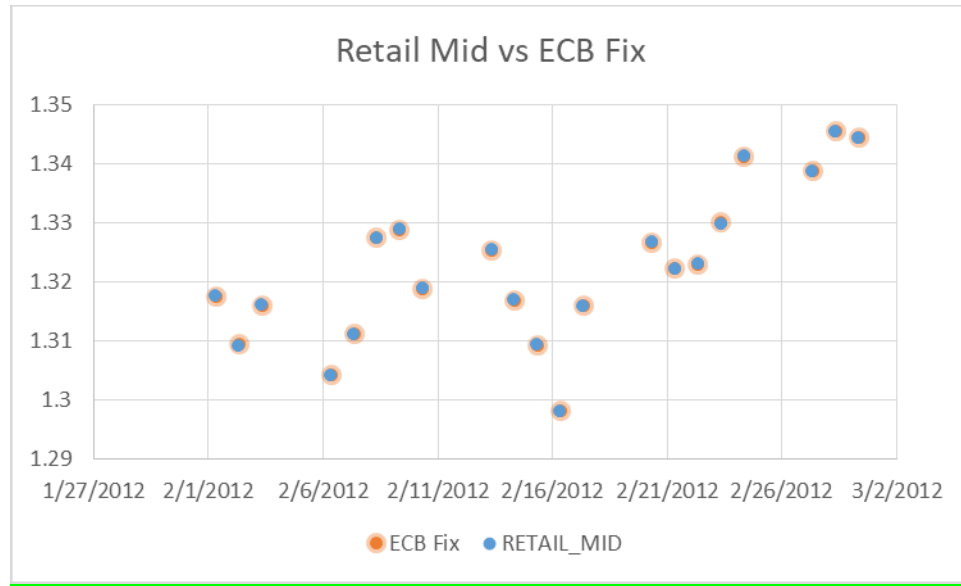
180. The correlation analysis and regression analysis results described above are consistent with the algorithmic pricing mechanism employed by RFEDs in setting retail FX prices passed on to Plaintiffs and members of the proposed Classes. The statistical analyses performed by Plaintiffs' expert demonstrate that the Reuters prices quoted by Defendants and other dealer banks to the RFED Direct Settlement Class Members during the Class Period were nearly perfectly correlated with, and a highly accurate predictor of, the retail prices that the RFEDs passed on to and that were paid by Plaintiffs and members of the proposed Classes. Therefore, to the extent that the Conspiracy manipulated spot prices for FX Instruments, that manipulation would have a direct and proportionate impact on the prices at which Class members purchased those same FX Instruments from RFEDs.

181. As alleged above, the Conspiracy also directly affected benchmark rates including the ECB Fix rates. Those benchmark rates had widespread impact on the pricing of all FX Instruments, including pricing on the FX Instrument sold directly from Defendants to RFEDs.

182. Because the prices charged by RFEDs are determined based on the prices charged by Defendants, and the prices charged by Defendants are influenced by the ECB Fix, RFED pricing should be highly correlated with ECB Fix rates. Using the same methodology used to compare the FOREX.com pricing with Reuters pricing, Plaintiffs' expert performed an economic analysis comparing the daily EUR/USD spot FX Instrument prices from FOREX.com (RFED) at the time of the ECB Fix with the corresponding ECB Fix rates during February 2012. That analysis confirms that the two price series are correlated to near statistical perfection.

183. A visual comparison of FOREX.com's pricing with the ECB rates demonstrates that high degree of correlation. For example, Figure 4 shows both retail prices (FOREX.com) and ECB Fix rates throughout February 2012. The retail (i.e., RFED) FX mid-quote is represented by a blue dot and the ECB rate is represented by a gold dot:

Figure 4: Retail (FOREX.com) and ECB Fix prices, February 2012



The two prices are so nearly perfectly correlated for the entire period that the dots overlap at every observation.

184. Correlation analysis further demonstrates the links between retail prices and the ECB Fix rates. A raw (Pearson's) correlation analysis comparing contemporaneous daily prices from the two series in February 2012 shows that the estimated correlation between retail prices and the ECB rates is 0.99996. That extremely high correlation coefficient means that the two series move almost perfectly in unison, as one would predict given their strong relationship.

~~154.~~185. As alleged above, Defendants manipulated benchmark rates and spot prices for FX Instruments which they charged to RFEDs (i.e. Direct Settlement Class Members), and

who, in turn, directly passed on that overcharge to Plaintiffs and the Class members without any intervening individual or entity.

IV. GOVERNMENT INVESTIGATIONS OF DEFENDANTS FOR ILLEGAL CONDUCT IN FX TRADING

~~152.~~186. Governmental law enforcement and regulatory authorities in the United States, United Kingdom, European Union, Brazil, Switzerland, South Africa, and several other sovereigns are conducting ongoing investigations of Defendants' conduct in the FX market.

~~153.~~187. On November 11, 2014, the Commodity Futures Trading Commission brought and settled charges against Citigroup, HSBC, JPMorgan, RBS, and UBS for violations of the Commodity Exchange Act relating to their involvement in the FX manipulation conspiracy. The CFTC settlements required the five Defendants to pay combined fines of over \$1.4 billion, including \$310 million each for Citigroup and JPMorgan, \$290 million each for RBS and UBS, and \$275 million for HSBC. On May 20, 2015, the CFTC brought and settled similar charges against Barclays for violations of the Commodity Exchange Act relating to its involvement in the FX manipulation conspiracy. The CFTC settlement with Barclays requires the bank to pay \$400 million in fines.

~~154.~~188. On November 12, 2014, the U.S. Office of the Comptroller of the Currency ("OCC") announced that it assessed fines of \$250 million against Bank of America, \$350 million against Citigroup, and \$350 million against JPMorgan "for unsafe or unsound practices related to their foreign exchange (FX) trading businesses." In addition to assessing monetary penalties, the OCC issued cease and desist orders requiring the three Defendants to correct deficiencies and enhance oversight of their FX trading activity. The OCC found that between 2008 and 2013, some of the banks' traders held discussions in online chat rooms for purposes of coordinating FX trading strategies to manipulate exchange rates to benefit traders and the banks.

~~155.~~189. On May 20, 2015, the U.S. Department of Justice (“DOJ”) announced that Defendants Citigroup, JPMorgan, Barclays, and RBS had agreed to plead guilty to felony charges of conspiring to manipulate the prices of U.S. dollars and euros traded in the FX spot market, in violation of the Sherman Antitrust Act, 15 U.S.C. § 1. As part of the plea deals, the four Defendants agreed to pay criminal fines totaling more than \$2.5 billion. The Defendants also agreed to “a three-year period of corporate probation,” and are required to cooperate in the DOJ’s ongoing criminal investigations of other Defendants and co-conspirators. Each of the four Defendants admitted in their plea agreement that “[h]ad this case gone to trial, the United States would have presented evidence sufficient to prove the following facts: . . . The defendant and its co-conspirators carried out the conspiracy to eliminate competition in the purchase and sale of the EUR/USD currency pair by various means and methods including, in certain instances, by: . . . coordinating the trading of the EUR/USD currency pair in connection with European Central Bank and World Markets/Reuters benchmark currency ‘fixes’ which occurred at 2:15 PM (CET) and 4:00 PM (GMT) each trading day. . . .” The four Defendants also admitted in their plea agreements that the conspiracy began “at least as early as December 2007 and continued until at least January 2013.”

~~156.~~190. Also on May 20, 2015, the DOJ announced that UBS had agreed to plead guilty and pay a \$203 million criminal penalty for illegal FX-related conduct in violation of a Non-Prosecution Agreement that was entered into between UBS and the DOJ Fraud Section on December 18, 2012. The Non-Prosecution Agreement was signed in connection with the DOJ’s previous investigation into UBS’s involvement in a conspiracy to manipulate benchmark interest rates, including the London InterBank Offered Rate (“LIBOR”). The May 20, 2015 plea agreement provides that “UBS expressly agrees that it shall not, through present or future

attorneys, officers, directors, employees, agents or any other person authorized to speak for UBS make any public statement, including in litigation . . . contradicting the facts set forth in Exhibit 1.” The facts in Exhibit 1 of the plea agreement include:

- “Certain employees of UBS engaged in conduct after December 18, 2012, . . . namely, (i) fraudulent and deceptive currency trading and sales practices in conducting certain foreign exchange (“FX”) market transactions with customers via telephone, email, and/or electronic chat, to the detriment of UBS’s customers, and (ii) collusion with other participants in certain FX markets.”;
- “UBS’s compliance program . . . did not detect collusive and deceptive sales-related conduct in FX markets until an article was published pointing to potential misconduct in the FX markets.”; and
- “Prior to, and continuing after [December 18, 2012], UBS, through one of its FX traders, conspired with other financial services firms acting as dealers in an FX spot market by agreeing to restrain competition in the purchase and sale of the EUR/USD currency pair in the United States and elsewhere. This was achieved by, among other things: (i) coordinating the trading of the EUR/USD currency pair in connection with ECB and WMR benchmark currency "fixes" which occurred at 212:15 PM (CET) and 4:00 PM (GMT) each trading day, and (ii) refraining from certain trading behavior, by withholding bids and offers, when one conspirator held an open risk position, so that the price of the currency traded would not move in a direction adverse to the conspirator with an open risk position. UBS participated in this collusive conduct from in or about October 2011 and continued until at least January 2013.”

157.191. In connection with the DOJ investigation, the U.S. Federal Reserve imposed additional combined fines of over \$1.6 billion on Citigroup, JPMorgan, Barclays, RBS, and UBS.

158.192. Also on May 20, 2015, the New York State Department of Financial Services (“NYDFS”) announced that Barclays would be required to pay \$485 million and ordered the termination of eight Barclays employees who engaged in New York Banking Law violations in connection with manipulating FX rates. Barclays admitted in the consent order with NYDFS that it had engaged in misconduct regarding the trading of FX “from at least 2008 through 2012.” On November 18, 2015, the NYDFS ordered Barclays to pay an additional \$150 million in fines and terminate another employee for further FX trading violations.

~~159.193.~~ In July 2016, HSBC's global head of FX cash trading, Mark Johnson, was arrested by U.S. authorities at the John F. Kennedy airport in New York on charges of conspiracy and wire fraud. A warrant was also issued for the arrest of Stuart Scott, who was formerly Johnson's deputy and head of HSBC's FX cash trading operations for Europe, the Middle East, and Africa, until he left HSBC in 2014. U.S. prosecutors announced in October 2016 that they would institute formal extradition proceedings for Scott, who has remained in England since the warrant was issued. In a criminal complaint filed against Johnson and Scott on July 19, 2016, the DOJ alleges that Johnson and Scott conspired to defraud a client company by "front running" the client's \$3.5 billion FX spot transaction for GBP/USD executed in December 2011. According to the DOJ complaint, Johnson and Scott misled the client into agreeing to trade the entire \$3.5 billion transaction at the WM/Reuters 3:00 p.m. Fix. When the client agreed, Johnson and Scott discussed on a recorded phone call how high they could "ramp" up the price of GPB/USD before the client would "squeal," and then placed "front running" FX orders in anticipation that the client's order would drive up the price of GBP/USD. Johnson and Scott encouraged other HSBC traders in New York and London to purchase GBP in their individual trader "P-book" accounts, and Scott purchased GBP in his P-book account. When the client authorized the trade, Scott told Johnson, "full amount" (indicating that the client had authorized the full order), to which Johnson replied, "Ohhhh, f***ing Christmas." The DOJ complaint alleges that HSBC earned approximately \$5 million from its execution of the trade, and an additional \$3 million from trades placed in their traders' "P-book" accounts. Two years prior to the arrests, HSBC conducted its own investigation into the \$3.5 billion trade, but found no wrongdoing. HSBC is currently reviewing that investigation.

~~160.~~194. In December 2016, the DOJ filed sentencing memoranda indicating that Barclays, JPMorgan, and Citigroup had provided the DOJ with evidence of another antitrust conspiracy in the FX spot market that involves currency pairs other than EUR/USD. That new evidence led the DOJ to broaden its long-running investigation into the manipulation of FX markets to include additional currencies. The DOJ requested that the criminal fines for Barclays, JPMorgan, and Citigroup be reduced due to the three banks' assistance in the ongoing investigation.

~~161.~~195. On January 10, 2017, the U.S. District Court for the District of Connecticut entered judgments against Citigroup, Barclays, JPMorgan, UBS, and RBS. The criminal fines imposed against each Defendant were \$925 million for Citigroup, \$710 million for Barclays, \$550 million for JPMorgan, \$203 million for UBS, and \$395 million for RBS. All five Defendants were sentenced to probation for three years.

~~162.~~196. On January 4, 2017, former Barclays trader Jason Katz pleaded guilty to federal charges. Katz worked for a year as director of emerging markets-foreign exchange trading at Barclays beginning in 2010, joined BNP Paribas in September 2011 as director of emerging markets-foreign exchange trading for two years, and then moved to work for Australia & New Zealand Banking Group Ltd. In his guilty plea, Katz admitted to participating in a conspiracy with other bankers to manipulate currency prices on electronic trading platforms by creating bogus trades and coordinating bids with other traders while working at three different financial institutions from 2007 to 2013. As part of the plea deal, Katz has agreed to cooperate with the government's ongoing investigation into Defendants' conspiracy. The conspiracy charge Katz admitted to has a maximum penalty of 10 years in prison and a \$1 million fine, which may be

increased to twice the gain derived from the crime or twice the losses suffered by victims if either amount is greater than \$1 million.

~~163.197.~~ That same day, the Federal Reserve Board announced that had permanently banned Katz from the banking industry. The Federal Reserve Board has also issued lifetime bans to Matthew Gardiner, a former FX trader at Barclays and UBS, and Christopher Ashton, the former head of spot trading at Barclays. Ashton was also fined \$1.2 million by the Board. On January 23, 2018, the Federal Reserve Board announced that it had denied a motion to void the \$1.2 million fine and permanent ban against Ashton.

~~164.198.~~ On January 10, 2017, a federal grand jury returned indictments for criminal conspiracy against former JPMorgan, Citigroup, and Barclays traders Richard Usher, Rohan Ramchandani, and Chris Ashton for their alleged roles in a conspiracy to manipulate the price of U.S. dollars and euros. The three former traders were members of the chat group that dubbed themselves the “Cartel.” The indictment found that Usher and Ramchandani started conspiring in December 2007, while Ashton joined the conspiracy four years later. Usher worked as a currency trader at RBS starting in 2003, then joined JPMorgan in 2010 as their head of FX spot trading. Ramchandani worked at Citigroup as their head of European spot FX trading. Both Usher and Ramchandani served until as recently as December 2012 as members of the Bank of England’s Chief Dealers Sub Group, a committee of currency traders and central bank officials tasked to recommend “industry guidance” for the FX market. Ashton was the global head of spot trading at Barclays. In a 2012 performance review, one of Ashton’s managers at Barclays described him as a “superstar” and noted: “Content is a huge part of what we do. Whether that’s in chats, on the phone or in person. You have transformed our approach to content and made it a huge advantage to the firm.” A fourth member of the “Cartel,” Matt Gardiner, a former trader at UBS, Barclays,

and Standard Chartered, has been cooperating with the DOJ in their ongoing criminal investigation.

165.199. On January 12, 2017, former Citigroup trader Christopher Cummins became the second individual to plead guilty to conspiring to fix prices in the FX market. Cummins—a former trader of central and eastern European, Middle Eastern, and African Citigroup—admitted to working with other FX traders at competing firms from 2007 until 2013 to manipulate FX prices on an electronic trading platform “through the creation of non-bona fide trades, coordinat[ing] the placement of bids and offers on that platform[,] and agree[ing] on currency prices they would quote specific customers, among other conduct,” according to a press release from the DOJ.

166.200. On April 20, 2017, the Federal Reserve announced that Deutsche Bank would be required to pay \$156.6 million for failure to detect and address its traders’ use of electronic chatrooms to discuss their positions with competitors, and for deficiencies in Deutsche Bank’s oversight and internal controls regarding FX traders trading FX in proprietary accounts for the benefit of the bank.

167.201. On November 12, 2014, the United Kingdom Financial Conduct Authority announced that it had imposed fines totaling £1.1 billion (\$1.8 billion) on Defendants Citigroup (\$358 million), HSBC (\$343 million), JPMorgan (\$352 million), RBS (\$344 million), and UBS (\$371 million) for failing to control business practices in their FX trading operations. The FCA found that between January 1, 2008 and October 15, 2013, “the Banks did not exercise adequate and effective control over their G10 spot FX trading businesses,” and that the Defendants’ traders “shared the information obtained through [groups of traders at multiple Defendant banks]” and “then attempted to manipulate fix rates and trigger client ‘stop loss’ orders (which are designed to

limit the losses a client could face if exposed to adverse currency rate movements).” On May 20, 2015, the FCA fined Barclays £284 million (\$441 million) for “improperly sharing confidential client information in attempts to manipulate spot FX currency rates, including in collusion with traders at other firms, in a way that could disadvantage those clients and the market.” The FCA press release announcing the fine stated that between January 1, 2008 and October 15, 2013, “Barclays’ systems and controls over its FX business were inadequate” and “[t]hese failings gave traders in those businesses the opportunity to engage in behaviours that put Barclays’ interests ahead of those of its clients, . . . [which] included inappropriately sharing information about clients’ activities and attempting to manipulate spot FX currency rates, including in collusion with traders at other firms, in a way that could disadvantage those clients and the market.” The Bank of England is supporting the FCA in its ongoing investigation of the FX manipulation conspiracy.

168-202. On July 21, 2014, the United Kingdom Securities Fraud Office (“SFO”) launched a criminal investigation into allegations of fraudulent conduct in the FX market. On December 19, 2014, the SFO and City of London Police arrested RBS trader Paul Nash in connection with the investigation. The SFO also sought interviews with several former Defendant traders, including Citigroup’s ex-European head of spot trading Rohan Ramchandani; Richard Usher, who moved from RBS to become JPMorgan’s chief currency dealer in London; Matt Gardiner, who was at Barclays before joining UBS; and Chris Ashton, the former head of spot trading at Barclays. The SFO closed its investigation in March 2016.

169-203. The Swiss Financial Market Supervisory Authority (“FINMA”) and the Swiss competition commission, “Weko,” is currently investigating numerous Defendants, including RBS, Barclays, UBS, Credit Suisse, JPMorgan, and Citigroup. FINMA initiated enforcement proceedings against UBS for suspected market abuse in FX trading in October 2013,

and on November 11, 2014, FINMA announced that it was imposing several sanctions on UBS after finding that UBS “severely violated” proper conduct in FX markets. In addition to imposing a fine of 134 million Swiss francs (\$130 million), FINMA required UBS to limit salaries for FX traders and managers, and to automate at least 95 percent of its FX trading in order to limit opportunities for trader manipulation. In December 2015, FINMA announced that it was imposing sanctions on at least six former UBS managers and traders. The announcement noted that “[t]raders shared confidential client information, sometimes revealing the identity of clients to third parties, deliberately triggered stop-loss orders and engaged in front running. They also repeatedly attempted to manipulate foreign exchange benchmarks.” The sanctioned former traders were banned for up to five years for their alleged participation in conspiracies to manipulate prices for FX and precious metals. FINMA and Weko are continuing their investigations of UBS and other Defendants.

~~170-204.~~ In 2013, the European Commission launched an antitrust investigation into allegations of manipulation of currency rates. The European Commission investigation is currently ongoing. As recently as June 2016, the European Commission asked banks to gather sales data that could be used to calculate eventual penalties.

~~171-205.~~ On February 15, 2017, following a two-year antitrust investigation, the Competition Commission of South Africa filed a complaint against Bank of America, Barclays, BNP Paribas, Citigroup, Credit Suisse, HSBC, JPMorgan, and Standard Chartered; as well as Commerzbank AG, Investec Ltd., Macquarie Bank Limited, Nomura International Plc., Standard Bank of South Africa Ltd., and Standard New York Securities Inc. The Competition Commission alleges that from at least 2007 to 2013, the banks conspired to manipulate U.S. Dollar to South Africa Rand exchange rates, in violation of South African antitrust laws. Specifically, the

Competition Commission alleges that the banks colluded on prices for bids, offers, and bid-offer spreads for spot trades on rand-to-dollar exchanges; and that they manipulated rates by coordinating trades and creating fictitious bids and offers. The Competition Commission referred the matter to a tribunal for formal prosecution, and is seeking fines of 10 percent of each bank's gross revenues in South Africa.

172.206. On February 20, 2017, the Competition Commission of South Africa filed a settlement with Citigroup. Under the terms of the settlement, Citigroup agreed to cooperate with the Commission and provide witnesses to assist the prosecution of the other banks, and to pay an administrative penalty of 69,500,860 Rand (approximately \$5.4 million). The Competition Commission press release announcing the settlement states that “from at least 2007, Citibank N.A. and its competitors had a general agreement to collude on prices for bids, offers and bid-offer spreads for the spot trades in relation to currency trading involving US Dollar / Rand currency pair. Further, the Commission found that Citibank N.A. and its competitors manipulated the price of bids and offers through agreements to refrain from trading and creating fictitious bids and offers at particular times.”

173.207. Brazil's antitrust agency, the Administrative Council for Economic Defense (“CADE”), launched an investigation in 2015 of Bank of America, BTMU, Barclays, Citigroup, Credit Suisse, Deutsche Bank, HSBC, JPMorgan, Morgan Stanley, RBC, RBS, Standard Chartered, and UBS for their roles in the FX manipulation conspiracy. On July 14, 2015, CADE confirmed the names of 30 bankers under investigation, including former RBS and JPMorgan trader Richard Usher; former Barclays and UBS trader Chris Ashton; Ashton's former colleague and former RBS trader Michael Weston; Ashton's former Barclays colleague Mark Clark; Citigroup's former European head of spot trading Rohan Ramchandani; Paul Nash from RBS;

former UBS and Standard Chartered trader Matthew Gardiner; Gardiner's former boss at UBS Niall O'Riordan; and former Standard Chartered trader Eduardo Hargreaves. CADE alleged that the banks colluded to influence benchmark FX rates by aligning positions and pushing transactions in a way that deterred competitors from the market between from at least 2007 to 2013. In December 2016, CADE announced that Barclays, Citigroup, Deutsche Bank, HSBC, and JPMorgan had admitted to participating in a conspiracy to manipulate foreign exchange markets. In agreements approved by a Brazilian tribunal, the banks were required to pay fines of 183.5 million reais (\$54.4 million). CADE also announced that there were "strong indications" that BNP Paribas was also involved in the conspiracy.

208. In March 2016, the South Korean Fair Trade Commission announced that it was imposing fines on HSBC and Deutsche Bank for colluding on bids for FX Instruments.

209. On May 24, 2017, the NYDFS announced that BNP Paribas would be required to pay \$350 million for FX violations that included coordinating with other dealer banks to carry out fake trades designed to manipulate prices, coordinating with other dealer banks to set fix spreads for customers trading in certain currencies, and improperly sharing customer information.

210. On July 17, 2017, the Federal Reserve Board announced that it was fining BNP Paribas \$246 million for illegal practices in the FX market. The Federal Reserve Board found that BNP Paribas traders used electronic chatrooms to communicate with competitors about their trading positions.

211. On July 24, 2017, the Federal Reserve Board announced that it was banning former Barclays FX trader Michael Weston from the U.S. banking industry for engaging in illegal FX trading practices including using electronic chat rooms to discuss the coordination of trading

around FX benchmark fixes and disclosing confidential information of Barclays and its customers to traders at other banks.

212. On September 29, 2017, the Federal Reserve Board fined HSBC \$175 million for unsafe and unsound practices in FX trading.

213. On November 13, 2017, the NYDFS announced that Credit Suisse would be required to pay \$135 million for FX violations that included front-running client orders, improperly sharing customer information, and other illegal conduct that disadvantaged customers from “at least” 2008 to December 2015.

214. On January 18, 2018, the DOJ announced that HSBC had agreed to pay a \$63.1 million criminal penalty as well as \$38.4 million in restitution and disgorgement to resolve charges that it engaged in a scheme to defraud clients through front-running on FX Instruments.

215. On January 25, 2018, the DOJ announced that BNP Paribas had pled guilty to participating in a price-fixing conspiracy in the FX market. As part of the plea deal, BNP Paribas agreed to pay a criminal fine of \$90 million. On February 16, 2018, the Federal Reserve Board announced that it is seeking to permanently ban Peter Little, the former head of the FX spot desk at Barclays Bank PLC in New York, from the banking industry and to impose a \$487,500 fine on him.

174.216. Other countries, including Germany, Singapore, Australia, Hong Kong, and New Zealand, have opened investigations of one or more Defendants for their anticompetitive conduct in the FX market.

217. On September 30, 2014, the Financial Stability Board, an international financial oversight body, released a report on FX benchmark rates with recommendations for reform in the

FX markets, and especially the WM/Reuters Fix, in order to prevent wrongful manipulation of benchmark rates in the future.

175-218. As alleged above, a significant number of government investigations into Defendants' FX operations are ongoing, and government agencies continue to bring criminal and administrative actions against Defendants and Defendants' former FX employees. Defendants continue to be able to communicate between firms and disclose the same types of confidential information that Defendants have used throughout the Conspiracy to manipulate FX prices. Therefore, it is clear that the risk of future FX-related misconduct by Defendants has not yet been adequately curtailed.

175-219. In addition to the numerous ongoing investigations into Defendants' FX operations, government agencies also continue to investigate Defendants for manipulating a variety of other financial instruments.

176-220. All sixteen Defendants have confirmed in public filings that they have been the subjects of government investigations into the manipulation of FX rates.

V. **DIRECT PURCHASER LITIGATION AND SETTLEMENTS**

177-221. On November 1, 2013, plaintiff Haverhill Retirement System filed a class action complaint in this District on behalf of persons and entities that purchased FX Instruments directly from Defendants Barclays, Citigroup, Credit Suisse, Deutsche Bank, JPMorgan, RBS, and UBS, seeking damages for the same FX manipulation conspiracy alleged in this Complaint under the Section 1 of the Sherman Act. *See FOREX* at ECF No. 1.

178-222. On January 28, 2015, the court denied a motion, made by the eleven Defendant groups named at the time, to dismiss the direct purchaser claims under Rule 12(b)(6). *See FOREX*, 74 F. Supp. 3d 581, 601 (S.D.N.Y. 2015) (ECF No. 242). The January opinion

dismissed, however, two separate “Foreign Complaints” that alleged antitrust violations on behalf of persons who traded FX with Defendants in South Korea and Norway. *Id.* at 589, 598.

~~179~~223. Subsequent plaintiffs (collectively, “Direct Purchaser Class Plaintiffs”) filed complaints with similar allegations against all Defendants named in this action, on behalf of persons and entities that entered into FX Instruments directly with Defendants and directly on U.S. exchanges, seeking damages under the Sherman Act and the Commodity Exchange Act. On February 13, 2016, the *FOREX* complaints were consolidated before this Court. *Id.* at ECF No. 96.

~~180~~224. On October 22, 2015, the Direct Purchaser Class Plaintiffs in *FOREX* moved for preliminary approval of settlements totaling \$2,009,075,000 with nine of the sixteen Defendant groups named in this action: (1) JPMorgan; (2) UBS; (3) Citigroup; (4) Barclays; (5) Bank of America; (6) Goldman Sachs; (7) RBS; (8) BNP Paribas; and (9) HSBC. *Id.* at ECF Nos. 480-81. The remaining seven Defendants groups named in *FOREX*, all of whom are also named in this Complaint, were not parties to the Direct Purchaser Class Settlements: (1) BTMU; (2) Credit Suisse; (3) Deutsche Bank; (4) Morgan Stanley; (5) RBC; (6) SocGen; and (7) Standard Chartered. *Id.* The motion for preliminary approval also requested that the court certify the Direct and Exchange-Only Settlement Classes for purposes of the Direct Purchaser Class Settlements. *Id.*

~~181~~225. On December 15, 2015, this Court preliminarily approved the Direct/Exchange-Only Class Settlements, designated a settlement administrator, and preliminarily certified the Direct and Exchange-Only Settlement Classes. *Id.* at ECF No. 536.

~~182~~226. On August 31, 2016, the Direct Purchaser Class Plaintiffs filed a motion for approval of a plan of notice, allocation, and distribution of the Direct/Exchange-Only Class Settlements. *Id.* at ECF No. 653.

~~183.227.~~ On July 28, 2017, the *FOREX* plaintiffs moved for preliminary approval of settlements totaling \$111,200,000 with Morgan Stanley, RBC, SocGen, Standard Chartered, and BTMU. *Id.* at ECF No. 820. The Court granted preliminary approval on September 8, 2017. *Id.* at ECF No. 875. On September 29, 2017, the *FOREX* plaintiffs moved for preliminary approval of a settlement for \$190,000,000 with Deutsche Bank. *Id.* at ECF No. 875. The Court granted preliminary approval that same day. *Id.* at ECF No. 882. The fifteen Defendant groups that have entered into settlements in *FOREX* are referred to herein as “Settling Defendants.” On January 12, 2018, the *FOREX* plaintiffs filed a motion for final approval of the settlements with all fifteen Settling Defendant groups. *Id.* at ECF No. 924. The *FOREX* litigation is ongoing against Credit Suisse Group AG; Credit Suisse AG; and Credit Suisse Securities (USA) LLC (collectively, the “Non-Settling Defendants”).

VI. DEFENDANTS TERMINATED AND SUSPENDED TRADERS, FORCED TRADERS TO RESIGN, AND IMPLEMENTED INTERNAL SAFEGUARDS AFTER THE CLASS PERIOD

~~184.228.~~ Since allegations of Defendants’ illegal manipulation of FX rates first became public, Defendants have terminated and suspended numerous traders and trade supervisors involved in FX operations. Defendants have also put traders on leave and forced traders to resign their positions. These terminations and punitive measures highlight the seriousness of the government investigations into Defendants’ FX operations, and of Plaintiffs’ allegations herein.

~~185.229.~~ In response to government fines and sanctions beginning in 2014, Defendants including Barclays, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, JPMorgan, Morgan Stanley, RBS, and UBS have instituted policies banning their traders from participating in multi-bank chat rooms. Those Defendants also fired more than 50 FX traders and trading supervisors.

~~186~~230. Citigroup announced in February 2014 that its head of FX operations Anil Prasad would be leaving the bank to “pursue other interests.” Citigroup also fired its head of European FX spot trading, Rohan Ramchandani. In addition to FX executives, Citigroup also fired and/or suspended several less-senior FX traders. In 2015, one of these fired Citigroup traders, Perry Stimpson, sued Citigroup in London for wrongful discharge. Stimpson argued at trial that he was pressured by senior Citigroup FX employees into using electronic chat rooms to share information with traders at other banks, and stated at trial that his “actions were normal across the industry” and at the bank. Several other former traders from Citigroup and other Defendant banks have brought similar wrongful termination claims against their former employers.

~~187~~231. In February 2017, former Citigroup trader Baris Ozkaptan prevailed in his unfair dismissal suit against Citigroup in a U.S. employment tribunal. Ozkaptan was fired by Citigroup for sharing the identities of clients in electronic chats, but he alleged in his suit that the bank turned a “blind eye” to traders sharing confidential client information. Ozkaptan testified in November 2016 that Citigroup traders would routinely disclose client orders to competitors and salespeople would warn preferred customers about trades before they moved markets if it benefited Citigroup.

~~188~~232. Former Citigroup traders Perry Stimpson, Carly McWilliams, and Robert Hoodless have all received favorable rulings in U.K. courts on at least part of their claims alleging that they were wrongfully dismissed by Citigroup. The judge hearing Stimpson’s claims found that there were “serious inadequacies” in Citigroup’s investigation before Stimpson’s dismissal, and held that “[t]his was a very serious failure to investigate despite having very substantial resources.” In her witness statement at trial, McWilliams stated that sharing information with

rivals was part of her “everyday job” at Citigroup. Hoodless alleged that his bosses at Citigroup “made him a scapegoat” for the FX market-manipulation scandal.

~~189~~233. UBS terminated and suspended a number of traders in connection with the FX conspiracy. In 2013, UBS suspended its global co-head of G10 FX trading in London, Niall O’Riordan. Also in 2013, UBS fired two traders in Singapore, Mukesh Kumar Chhaganlal and Prashan Parmeshwar Sunny Miripuri. Chhaganlal and Miripuri sued UBS in Singapore’s High Court in March 2013 for wrongful dismissal, alleging that the bank fired them to lessen UBS’s perceived role in the alleged manipulation of FX rates. In March 2014, UBS suspended at least six more traders in the U.S., Singapore, and Switzerland. In June 2015, after UBS had paid substantial fines and conducted an independent investigation into its involvement in the FX manipulation conspiracy, UBS reinstated one of the traders that it had previously fired or suspended.

~~190~~234. Deutsche Bank in January 2014 dismissed three of its New York-based FX traders—Diego Moraiz, who dealt in Latin American currencies; Robert Wallden, a director in Deutsche Bank’s New York FX trading unit; and Christopher Fahy, a managing director at Deutsche Bank’s New York FX office and a former FX trader at Merrill Lynch—following an internal investigation into alleged FX manipulation. Robert Wallden had previously been questioned by the U.S. Federal Bureau of Investigation in 2013, regarding his electronic communications with other FX traders.

~~191~~235. RBS has terminated and suspended several FX employees. In October 2013, RBS suspended London-based FX spot traders Julian Munson and Paul Nash.

~~192~~236. In 2015, former RBS trader Ian Drysdale brought an unfair dismissal lawsuit against RBS in London. Drysdale told a London tribunal that RBS “had to find relevant

scapegoats, of which I was one,” and issued a statement claiming that “the real reason for my dismissal was to deflect attention from the respondent's (RBS's) own admitted failures.” The London judge ruled that RBS’s termination of Drysdale was unfair, but awarded the trader no compensation because “[h]e, along with a number of others, was doing something he knew was fundamentally wrong.”

~~193.237.~~ 193.237. HSBC suspended two of its London-based FX traders on January 17, 2014, amid multiple government investigations into HSBC’s FX operations. One of the suspended traders was Serge Saramegna, HSBC’s chief trader for major foreign currencies.

~~194.238.~~ 194.238. Barclays suspended at least six FX traders on or about October 31, 2013, including chief global FX dealer Chris Ashton, Tokyo trader Jack Murray, and London trader Mark Clark. The New York Department of Financial Services required Barclays to terminate eight FX traders as a part of Barclays’ penalties for its involvement in the FX rate manipulation conspiracy.

~~195.239.~~ 195.239. JPMorgan placed senior FX trader Richard Usher, the former head of spot G10 currency trading for the bank, on paid leave in October 2013 amid government inquiries into potential manipulation of the FX market. In October 2014, Usher formally left the bank.

~~196.240.~~ 196.240. Goldman Sachs dismissed one of its FX traders, Frank Cahill, in November 2014 for his alleged involvement in FX manipulation. Prior to Goldman Sachs, Cahill worked at HSBC.

~~197.241.~~ 197.241. Bank of America suspended several senior FX traders in 2014.

~~198.242.~~ 198.242. BNP Paribas placed several senior FX traders on leave in 2014, after the bank became a subject of government investigations into the FX manipulation conspiracy. At least one of the suspended traders worked at Citigroup as an FX trader prior to working at BNP Paribas.

~~199.243.~~ SocGen has fired at least one currency trader for involvement in the FX conspiracy. In 2015, SocGen dismissed Ilan Botbol for several instances of misconduct regarding FX trading. Later that year, Botbol sued SocGen in French court for unfair dismissal. SocGen responded to the suit by arguing that the termination was justified in part because Botbol shared confidential customer information with a Morgan Stanley trader in 2009 and invited the trader to profit from that information. However, SocGen did not terminate Botbol until six years after that incident took place. Botbol argued that SocGen's claims are undermined by the bank's failure to monitor employee behavior and to act promptly upon learning of the alleged infringements. Botbol also alleged that SocGen encouraged traders to gain market intelligence by sharing information with traders at other banks.

~~200.244.~~ In February 2017, Deutsche Bank purchased full-page advertisements in the German newspapers Frankfurter Allgemeine Zeitung and Sueddeutsche Zeitung to publish a letter from CEO John Cryan apologizing to Deutsche Bank customers for the bank's "serious errors" in the U.S. subprime mortgage crisis as well as unspecified "other cases as well." The letter states that "some time ago serious errors were made," "[t]he conduct of our bank did not meet our standards and was unacceptable" in the mortgage case and "other cases as well," and "[i]n the name of the board of the Deutsche Bank I would now like to take this opportunity to express our deep regret for what has happened."

245. Defendants have recently implemented surveillance systems to prevent their traders from manipulating the FX market in the future. According to PricewaterhouseCoopers' 2016 Market Abuse Surveillance Survey, FX dealer banks have recently hired large surveillance teams to review messages and listen in on phone calls between traders, in order to detect and deter illegal collusion by FX traders. The PricewaterhouseCoopers report, published in February 2016, states

that FX dealer banks participating in their survey expect to substantially increase their investments in trader surveillance in the next year, with most projecting between \$7 million and \$14 million in additional spending. Some banks employ as many as 50 people to parse through trader emails and messages and listen to trader calls in efforts to detect illegal conduct.

201-246. Despite these actions, Defendant misconduct in the FX market continues to this day. For example, in February 2018, the Hong Kong Securities and Futures Commission (“SFC”) fined Credit Suisse approximately \$5 million for regulatory violations related to Credit Suisse’s FX trading operations. The SFC found that as far back as April 2003, and as recently as July 2017, Credit Suisse engaged in trading activities that included failing to segregate client funds, failing to report FX transactions, failure to report Credit Suisse’s short positions, selling risky investment products to clients, and the charging of incorrect rates and commissions to FX clients.

ANTITRUST INJURY TO PLAINTIFFS

202-247. Defendants are the largest and most dominant FX traders in the global financial system, and particularly in the U.S. FX market. Defendants are horizontal competitors, competing to buy and sell FX by supplying quotes for FX trades. In a competitive FX market, absent collusion, bid-ask spreads on FX Instruments would be extremely narrow, as Defendants would drive down spreads by competing with each other to offer customers more desirable rates. As a result, bid-ask spreads on FX Instruments purchased indirectly from Defendants would be similarly narrow.

203-248. Defendants’ conspiracy harmed competition among dealers in the FX market. As a result of Defendants’ collusion, indirect purchasers, including Plaintiffs and members of the proposed Classes, paid higher prices for FX Instruments than they would have in a competitive market.

204-249. As alleged above, Defendants' manipulation of the Fixes and FX spot rates resulted in anticompetitive prices for all FX Instruments. Defendants' manipulation of the FX market was so pervasive that Plaintiffs and the other members of the proposed Classes could not have participated in the FX market during the Class Period without suffering damage as a result of Defendants' anticompetitive conduct. As a direct and proximate result of Defendants' conspiracy, Plaintiffs and members of the proposed Classes were deprived of the advantageous prices, exchange rates, and bid-ask spreads that would have resulted from normal price competition in the FX market.

205-250. Defendants' conduct in furtherance of the conspiracy harmed Plaintiffs and the Class members in several ways. Defendants conspired to fix prices and conform their FX trade quotes. Defendants also agreed to coordinate the timing and volume of trades in order to manipulate the market, to the benefit of Defendants and the ultimate detriment of Plaintiffs and the members of the Proposed Classes. These actions, individually and collectively, had the effect of artificially increasing the prices paid by non-Defendant FX purchasers and decreasing the prices received by non-Defendant FX sellers, thereby overcharging FX customers. Thus, Defendants' actions deprived Plaintiffs and the members of the Proposed Classes of a competitive marketplace and exposed them to artificial pricing and volatility.

206-251. The injuries suffered by Plaintiffs and members of the proposed Classes are directly traceable to Defendants' anticompetitive conduct alleged herein. On any day that one or more of the Fixes or spot rates were manipulated by Defendants, all members of the Direct Settlement Class (i.e. all entities that purchased FX Instruments directly from Defendants and Defendants' co-conspirators) paid supracompetitive prices for those FX Instruments. Each time a member of the proposed Classes purchased an FX Instrument directly from a member of the Direct

Settlement Class (and thus indirectly purchased from one or more Defendants or co-conspirators), the overcharge incurred by the direct purchaser as a result of Defendants' FX manipulation was directly passed on to the member of the proposed Classes. Similarly, for any transaction in which a Defendant sold an FX Instrument to a member of the Direct Settlement Class at an artificially inflated (i.e. price-fixed) price and the Direct Settlement Class member resold that FX Instrument to a Plaintiff or member of the proposed Classes, the Direct Settlement Class member directly passed that anticompetitive overcharge to the Class member.

207-252. Absent collusion, each individual Defendant would have had an independent incentive to quote tighter bid-ask spreads in order to stay competitive with other dealers in the FX market. Thus, no single Defendant would have fixed its own bid-ask spread but for a conspiracy among multiple Defendants.

208-253. Absent collusion, an individual Defendant's attempt to manipulate FX rates would have little to no effect on the FX market. Thus, no single Defendant could have consistently manipulated FX rates but for the conspiracy.

FRAUDULENT CONCEALMENT

209-254. Throughout the Class Period, Defendants knowingly, fraudulently, and deliberately concealed their conspiracy to fix FX prices from Plaintiffs and members of the proposed Classes.

210-255. Concealment of the secret communications between Defendants was an essential element of the conspiracy to manipulate FX prices. Defendants communicated through non-public chat rooms, phone calls, instant messages, text messages, email, and at in-person meetings.

211-256. On June 11, 2013, Bloomberg Business published an article reporting that several Defendants had colluded to manipulate the WM/Reuters Fixes by collectively front-

running customer orders. To Plaintiffs' knowledge, this was the first public report concerning Defendants' price manipulation in the FX market. Subsequent news articles and government investigation reports further revealed the involvement of all Defendants and the nature of Defendants' widespread conspiracy.

212-257. Prior to the Bloomberg article, information regarding Defendants' conspiracy was not reasonably available to Plaintiffs or members of the proposed Classes.

213-258. Defendants only allowed high-level traders to participate in secret communications regarding the conspiracy. In efforts to avoid detection, these traders used code words and names, phone calls, encrypted messages, and other communication platforms that are difficult or impossible to trace.

214-259. In one example of a trader attempting to conceal FX manipulation, a JPMorgan FX trader warned a Barclays trader that they should not discuss their plan to manipulate the USD/South African Rand rate via instant message. In a November 4, 2010 chat transcript that was later uncovered by the New York Department of Financial Services, the Barclays trader stated, "if you win this we should coordinate you can show a real low one and will still mark it little lower haha." The JPMorgan trader replied that they "prolly shudnt put this on perma chat," and Barclays trader responded "if this is the chat that puts me over the edge than oh well. much worse out there."

215-260. As a result of Defendants' efforts to conceal their conspiracy, Defendants successfully prevented Plaintiffs from being able to learn of the facts needed to bring suit against Defendants for conspiring to manipulate FX prices until at least June 11, 2013.

216-261. Because Defendants fraudulently concealed their conspiracy in deliberate efforts to prevent Plaintiffs and members of the proposed Classes from commencing suit,

Defendants are equitably estopped from asserting that any otherwise applicable limitations period has run.

CLAIMS FOR RELIEF

FIRST CLAIM FOR RELIEF

Violations of Section 1 of the Sherman Antitrust Act, 15 U.S.C. § 1 (On Behalf of All Plaintiffs against All Defendants)

~~217-262.~~ Plaintiffs incorporate each allegation above as if fully set forth herein.

~~218-263.~~ Defendants and unnamed conspirators entered into and engaged in a contract, combination, or conspiracy in unreasonable restraint of trade, in violation of Section 1 of the Sherman Act (15 U.S.C. § 1).

~~219-264.~~ The acts done by Defendants as part of, and in furtherance of, their and their co-conspirators' contract, combination, or conspiracy were authorized, ordered, or done by their officers, agents, employees, or representatives while actively engaged in the management of Defendants' affairs.

~~220-265.~~ At least as early as 2007, and continuing until at least 2013, the exact dates being unknown to Plaintiffs, Defendants and their co-conspirators entered into a continuing agreement, understanding, and conspiracy in restraint of trade to artificially fix, raise, stabilize, and control prices for FX Instruments, thereby creating anticompetitive effects.

~~221-266.~~ The anticompetitive acts were intentionally directed at the United States market for FX Instruments and had a substantial and foreseeable effect on interstate commerce by raising and fixing prices for FX Instruments throughout the United States.

~~222-267.~~ The conspiratorial acts and combinations have caused unreasonable restraints in the market for FX Instruments.

~~223-268.~~ As a result of Defendants' unlawful conduct, Plaintiffs and other similarly situated indirect purchasers in the Nationwide Class have been harmed in the form of overcharges on FX Instruments.

~~224-269.~~ In formulating and carrying out the alleged agreement, understanding, and conspiracy, Defendants and their co-conspirators did those things that they combined and conspired to do, including but not limited to the acts, practices, and course of conduct set forth herein.

~~225-270.~~ Defendants' conspiracy had the following effects, among others:

- a. Price competition in the market for FX Instruments was restrained and suppressed in the United States;
- b. Prices for FX Instruments were fixed, raised, maintained, and stabilized at artificial, non-competitive levels throughout the United States; and
- c. Plaintiffs and members of the Nationwide Class who purchased FX Instruments indirectly from Defendants and their co-conspirators were deprived of the benefits of free and open competition.

~~226-271.~~ Plaintiffs and members of the Nationwide Class have been injured and will continue to be injured in their business and property by paying more for FX Instruments purchased indirectly from Defendants and their co-conspirators than they would have paid in the absence of the conspiracy.

272. Several Plaintiffs, including New York Plaintiff James Contant, Florida Plaintiff FX Primus, and Illinois Plaintiff Ugnius Matkus, are active retail FX traders who plan to purchase FX Instruments in the future. Therefore, if Defendants continue to be able to manipulate FX prices, those Plaintiffs will be harmed.

~~227-273.~~ The alleged contract, combination, or conspiracy is a *per se* violation of the Sherman Act.

~~228-274.~~ Plaintiffs and members of the Nationwide Class are entitled to an injunction against Defendants, preventing and restraining the violations alleged herein.

SECOND CLAIM FOR RELIEF
Violations of the Donnelly Act,
New York General Business Laws § 340, *et seq.*
(On Behalf of the New York Plaintiff against All Defendants)

~~229-275.~~ Plaintiffs incorporate each allegation above as if fully set forth herein.

~~230-276.~~ Defendants have entered into an unlawful agreement in restraint of trade in violation of the New York General Business Laws § 340, *et seq.* (the “Donnelly Act”). The New York Plaintiff, on behalf of the proposed statewide New York Class of indirect FX purchasers, alleges as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants and their co-conspirators entered into and engaged in an agreement, arrangement, or combination, in violation of New York General Business Laws § 340, *et seq.*, by engaging in the acts and practices detailed above. Each Defendant has acted in violation of § 340 to restrain competition and fix, raise, and maintain artificial prices for FX Instruments.

b. Defendants’ and their co-conspirators’ agreement, arrangement, or combination had the following effects: (i) FX Instrument price competition was restrained, suppressed, and eliminated throughout New York; (ii) FX Instrument prices were raised, fixed, maintained, and stabilized at artificially high levels throughout New York; (iii) the New York Plaintiff and members of the New York Class were deprived of free and open competition; and (iv) the New York Plaintiff and members of the New York Class were overcharged for FX Instruments that they indirectly purchased from Defendants and Defendants’ co-conspirators.

c. Throughout the Class Period, Defendants' anticompetitive conduct alleged herein substantially affected intrastate New York commerce. The New York Plaintiff and all members of the proposed New York Class were domiciled in New York during the Class Period and/or purchased FX Instruments in New York indirectly from one or more Defendants during the Class Period. Many Defendants are headquartered in New York City and/or maintain their principal places of business in New York, and Defendants all conduct significant business in New York, including business relating to FX trading. Defendants Merrill Lynch, Pierce, Fenner & Smith Inc.; Barclays Capital Inc.; BNP Paribas North America, Inc.; BNP Paribas Securities Corp.; BNP Paribas Prime Brokerage, Inc.; Citigroup Inc.; Citibank, N.A.; Citigroup Global Markets Inc.; Credit Suisse Securities (USA) LLC; Deutsche Bank Securities Inc.; The Goldman Sachs Group, Inc.; Goldman, Sachs & Co; HSBC North America Holdings, Inc.; HSBC Bank USA, N.A.; HSBC Securities (USA) Inc.; JPMorgan Chase & Co.; JPMorgan Chase Bank, N.A.; Morgan Stanley; Morgan Stanley & Co., LLC; and RBC Capital Markets LLC all have their principal places of business and/or headquarters in New York, New York. Defendants Bank of America Corporation; The Bank of Tokyo Mitsubishi UFJ Ltd.; Société Générale S.A.; Standard Chartered Bank; UBS Securities LLC; Barclays Bank PLC; Credit Suisse AG; Deutsche Bank AG; and Royal Bank of Scotland ~~Group~~ PLC all have major New York offices and conduct a substantial portion of their FX trading in New York. All Defendants communicated regularly with Defendant traders in New York for purposes of carrying out the unlawful conspiracy alleged herein.

d. Defendants' agreement, arrangement, or combination caused the New York Plaintiff and the members of the New York Class to incur anticompetitive overcharges on FX Instruments. The New York Plaintiff and the members of the New York Classes thereby suffered injury in fact in the form of lost money or property.

e. By reason of the foregoing, Defendants have entered into agreements in restraint of trade in violation of the Donnelly Act, New York General Business Laws § 340, *et seq.* The conduct set forth above is a *per se* violation of the Act. Accordingly, the New York Plaintiff and members of the New York Class seeks treble damages, costs of suit (up to \$10,000), and reasonable attorneys' fees.

THIRD CLAIM FOR RELIEF
Violations of Arizona's Uniform State Antitrust Act,
Arizona Revised Statutes, §§ 44-1401, *et seq.*
(On Behalf of the Arizona Plaintiff against All Defendants)

~~231-277.~~ Plaintiffs incorporate each allegation above as if fully set forth herein.

~~232-278.~~ Defendants have entered into an unlawful agreement in restraint of trade in violation of the Arizona Revised Statutes, §§ 44-1401, *et seq.*

~~233-279.~~ Defendants have entered into an unlawful contract, combination, or conspiracy in restraint of trade and commerce, in violation of the Arizona Revised Statutes, §§ 44-1401, *et seq.* (the "Uniform State Antitrust Act"). The Arizona Plaintiff, on behalf of the proposed statewide Arizona Class of indirect FX purchasers, alleges as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants and their co-conspirators entered into and engaged in a continuing unlawful conspiracy in restraint of the trade and commerce, as described above, in violation of the Uniform State Antitrust Act. Each Defendant has acted in violation of the Uniform State Antitrust Act to fix, raise, and maintain artificial prices for FX Instruments.

b. Defendants' unlawful conspiracy consisted of a continuing agreement, understanding, and concerted action among Defendants and their co-conspirators. Defendants entered into and participated in the unlawful trust for purposes of, *inter alia*, (i) creating and carrying out restraints in the FX market; (ii) artificially manipulating the prices of FX Instruments,

including FX Instruments sold in Arizona and to Arizona residents; (iii) preventing competition and competitive prices in the FX market; (iv) establishing and settling prices for FX Instruments between Defendants, so as to preclude unrestrained competition among themselves and all purchasers and owners of FX Instruments; and (v) creating and carrying out agreements to pool and combine Defendants' financial interests connected with their sales and purchases of FX Instruments.

c. The combination and conspiracy alleged herein has had, *inter alia*, the following effects: (i) price competition in the market for the sale of FX Instruments has been restrained and suppressed in the State of Arizona and throughout the United States; (ii) prices for FX Instruments have been fixed, raised, stabilized, and pegged at artificial levels in the State of Arizona and throughout the United States; and (iii) those who purchased FX Instruments directly or indirectly from Defendants and their co-conspirators have been deprived of the benefit of free and open competition.

d. As a direct and proximate result of Defendants' unlawful conduct, the Arizona Plaintiff and members of the Arizona Class have been injured in their business and property in that they incurred overcharges on FX Instruments that they otherwise would not have incurred in the absence of Defendants' unlawful conduct.

e. Defendants' violations of the Uniform State Antitrust Act were flagrant, as defined by Arizona law.

f. As a result of Defendants' violations of the Uniform State Antitrust Act, the Arizona Plaintiff and members of the Arizona Class seek three times the damages sustained and their cost of suit, including reasonable attorney's fees.

FOURTH CLAIM FOR RELIEF
Violations of the Cartwright Act,
California Business and Professions Code § 16720, *et seq.*
(On Behalf of the California Plaintiffs against All Defendants)

~~234.~~280. Plaintiffs incorporate each allegation above as if fully set forth herein.

~~235.~~281. Defendants have entered into an unlawful agreement in restraint of trade in violation of the California Business and Professions Code, § 16700, *et seq.* (the “Cartwright Act”). The California Plaintiffs, on behalf of the proposed statewide California Class of indirect FX purchasers, allege as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants and their co-conspirators entered into and engaged in a continuing unlawful trust in restraint of the trade and commerce, as described above, in violation of California Business and Professions Code § 16720. Each Defendant has acted in violation of § 16720 to fix, raise, and maintain artificial prices for FX Instruments.

b. Defendants’ unlawful trust consisted of a continuing agreement, understanding, and concerted action among Defendants and their co-conspirators. Defendants entered into and participated in the unlawful trust for purposes of, *inter alia*, (i) creating and carrying out restraints in the FX market; (ii) artificially manipulating the prices of FX Instruments, including FX Instruments sold in California and to California residents; (iii) preventing competition and competitive prices in the FX market; (iv) establishing and settling prices for FX Instruments between Defendants, so as to preclude unrestrained competition among themselves and all purchasers and owners of FX Instruments; and (v) creating and carrying out agreements to pool and combine Defendants’ financial interests connected with their sales and purchases of FX Instruments.

c. The combination and conspiracy alleged herein has had, *inter alia*, the following effects: (i) price competition in the market for the sale of FX Instruments has been restrained and suppressed in the State of California and throughout the United States; (ii) prices for FX Instruments have been fixed, raised, stabilized, and pegged at artificial levels in the State of California and throughout the United States; and (iii) those who purchased FX Instruments directly or indirectly from Defendants and their co-conspirators have been deprived of the benefit of free and open competition.

d. As a direct and proximate result of Defendants' unlawful conduct, the California Plaintiffs and members of the California Class have been injured in their business and property in that they incurred overcharges on FX Instruments that they otherwise would not have incurred in the absence of Defendants' unlawful conduct.

e. As a result of Defendants' violations of the Cartwright Act, the California Plaintiffs and members of the California Class seek treble damages and their cost of suit, including reasonable attorney's fees, pursuant to § 16750(a) of the California Business and Professions Code.

FIFTH CLAIM FOR RELIEF
Violations of California's Unfair Competition Law,
California Business and Professions Code § 17200, *et seq.*
(On Behalf of the California Plaintiffs against All Defendants)

236-282. Plaintiffs incorporate each allegation above as if fully set forth herein.

237-283. Defendants have engaged in unfair competition or unfair, unconscionable, deceptive, or fraudulent acts or practices in violation of California Business and Professions Code § 17200, *et seq.* (California's Unfair Competition Law). The California Plaintiffs, on behalf of the proposed statewide California Classes of indirect FX purchasers, allege as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants committed acts of unfair competition, as defined by § 17200, *et seq.*

of the California Business and Professions Code, by engaging in the acts and practices specified above. Each of the Defendants has acted in violation of § 17200 to fix, raise, and maintain artificial prices for FX Instruments.

b. Defendants' conduct as alleged herein violated § 17200, *et seq.* of the California Business and Professions Code. The acts, omissions, misrepresentations, practices, and non-disclosures of Defendants, as alleged herein, constituted a common, continuous, and continuing course of conduct of unfair competition by means of unfair, unlawful, and/or fraudulent business acts or practices within the meaning of § 17200, *et seq.*, including, but not limited to, the following: (i) violations of Section 1 of the Sherman Act, as set forth above; and (ii) violations of the Cartwright Act, as set forth above.

c. Defendants' acts, omissions, misrepresentations, practices, and non-disclosures, as described above, whether or not in violation of Section 1 of the Sherman Act and the Cartwright Act, and whether or not concerted or independent acts, were otherwise unfair, unconscionable, unlawful, or fraudulent.

d. Defendants' acts and practices were unfair to indirect purchasers of FX Instruments in the State of California within the meaning of § 17200 of the California Business and Professions Code.

e. Defendants' acts and practices were fraudulent or deceptive within the meaning of § 17200 of the California Business and Professions Code.

f. The California Plaintiffs and members of the California Class are entitled to full restitution and/or disgorgement of all revenues, earnings, profits, compensation, and benefits that may have been obtained by Defendants as a result of such business acts or practices.

g. The unlawful and unfair business practices of Defendants caused the California Plaintiffs and the members of the California Class to incur overcharges on FX Instruments. The California Plaintiffs and the members of the California Class suffered injury in fact in the form of lost money or property as a result of such unfair competition.

h. As alleged in this Complaint, Defendants and their co-conspirators have been unjustly enriched as a result of their wrongful conduct and by Defendants' unfair competition. The California Plaintiffs and the members of the California Class are accordingly entitled to equitable relief, including restitution and/or disgorgement of all revenues, earnings, profits, compensation, and benefits that may have been obtained by Defendants as a result of such business practices, pursuant to the California Business and Professions Code, §§ 17203 and 17204.

SIXTH CLAIM FOR RELIEF
Violations of the Florida Deceptive and Unfair Trade Practices Act,
Fla. Stat. § 501.201, *et seq.*
(On Behalf of the Florida Plaintiffs against All Defendants)

~~238.~~284. Plaintiffs incorporate each allegation above as if fully set forth herein.

~~239.~~285. Defendants have engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices in the conduct of trade or commerce, in violation of Fla. Stat. § 501.201, *et seq.* (the "Florida Deceptive and Unfair Trade Practices Act"). The Florida Plaintiffs, on behalf of the proposed statewide Florida Class of indirect FX purchasers, allege as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants and their co-conspirators entered into and engaged in unfair methods of competition, unconscionable acts or practices, and unfair or deceptive acts or practices in the conduct of trade or commerce, in violation of the Florida Deceptive and Unfair Trade Practices Act. Each Defendant has acted in violation of the Florida Deceptive and Unfair Trade Practices

Act by entering into and engaging in a conspiracy to restrain competition and unfairly and deceptively fix and inflate prices for FX Instruments.

b. Defendants' unlawful combination or conspiracy consisted of a continuing agreement, understanding, and concerted action among Defendants and their co-conspirators. Defendants entered into and participated in the unlawful conspiracy for purposes of engaging in unfair methods of competition and unfair trade practices to fix, control, and maintain the prices charged for FX Instruments throughout the United States, including in the State of Florida.

c. The combination and conspiracy alleged herein has had, *inter alia*, the following effects: (i) price competition in the market for the sale of FX Instruments was restrained and decreased in Florida and throughout the United States; (ii) prices for FX Instruments were fixed, controlled, and maintained at artificial levels in the State of Florida and throughout the United States; (iii) those who purchased FX Instruments directly or indirectly from Defendants and their co-conspirators were deprived of the benefits of free and open competition; and (iv) Florida Plaintiffs and the Florida Class paid supracompetitive, artificially inflated prices for FX Instruments.

d. Throughout the Class Period, Defendants' illegal conduct substantially affected Florida commerce and consumers.

e. As a direct and proximate result of Defendants' unlawful conduct, the Florida Plaintiffs and members of the Florida Class have been injured in their business and property in that they incurred overcharges on FX Instruments that they otherwise would not have incurred in the absence of Defendants' unlawful conduct. As a result of Defendants' violations of the Florida Deceptive and Unfair Trade Practices Act, the Florida Plaintiffs and members of the

Florida Class seek actual damages plus attorney's fees and court costs, pursuant to Fla. Stat. § 501.211.

SEVENTH CLAIM FOR RELIEF
Violations of the Illinois Antitrust Act,
740 Ill. Comp. Stat. 10/1, *et seq.*
(On Behalf of the Illinois Plaintiff against All Defendants)

~~240-286.~~ Plaintiffs incorporate each allegation above as if fully set forth herein.

~~241-287.~~ Defendants have entered into an unlawful agreement in restraint of trade in violation of 740 Ill. Comp. Stat. 10/1, *et seq.* (the “Illinois Antitrust Act”). The Illinois Plaintiff, on behalf of the proposed statewide Illinois Class of indirect FX purchasers, alleges as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants and their co-conspirators entered into and engaged in a combination or conspiracy, in violation of the Illinois Antitrust Act, by engaging in the acts and practices detailed above. Each Defendant has acted in violation of the Illinois Antitrust Act to restrain competition and fix, control, and maintain prices for FX Instruments and to unreasonably restrain trade and commerce in the market for FX Instruments.

b. Defendants’ unlawful combination or conspiracy consisted of a continuing agreement, understanding, and concerted action among Defendants and their co-conspirators. Defendants entered into and participated in the unlawful trust for purposes of fixing, controlling, and maintaining the prices charged for FX Instruments.

c. The combination and conspiracy alleged herein has had, *inter alia*, the following effects: (i) price competition in the market for the sale of FX Instruments was restrained and decreased in the State of Illinois and throughout the United States; (ii) prices for FX Instruments sold by Defendants and their co-conspirators were fixed, controlled, and maintained at artificial levels in the State of Illinois and throughout the United States; and (iii) those who

purchased FX Instruments directly or indirectly from Defendants and their co-conspirators were deprived of the benefits of unhampered commerce and free and open competition.

d. Defendants' conduct in furtherance of the conspiracy that occurred at Defendant offices outside of the United States had a direct, substantial, and reasonably foreseeable effect on trade and commerce in the State of Illinois and throughout the United States.

e. As a direct and proximate result of Defendants' unlawful conduct, the Illinois Plaintiff and members of the Illinois Class have been injured in their business and property in that they incurred overcharges on FX Instruments that they otherwise would not have incurred in the absence of Defendants' unlawful conduct. As a result of Defendants' violations of the Illinois Antitrust Act, the Illinois Plaintiff and members of the Illinois Class seek treble damages, plus reasonable attorneys' fees and court costs, pursuant to 740 Ill. Comp. Stat. Ann. 10/7.

EIGHTH CLAIM FOR RELIEF
Violations of the Massachusetts Consumer Protection Act
Mass. Gen. Laws ch. 93A, §1 *et seq.*
(On Behalf of the Massachusetts Plaintiff against All Defendants)

~~242.~~288. Plaintiffs incorporate each allegation above as if fully set forth herein.

~~243.~~289. Defendants have entered into an unlawful conspiracy in restraint of trade or commerce in violation of Mass. Gen. Laws ch. 93A, §1 *et seq.* ("Chapter 93A"). The Massachusetts Plaintiff, on behalf of the proposed statewide Massachusetts Class of indirect FX purchasers, alleges as follows:

a. Throughout the Class Period, all Defendants were engaged in trade or commerce as defined by Chapter 93A.

b. Defendants' conduct as alleged herein violated Chapter 93A. The acts, omissions, misrepresentations, practices, and non-disclosures of Defendants, as alleged herein, constituted a common, continuous, and continuing course of conduct of unfair methods of

competition and unfair or deceptive acts or practices in the conduct of trade or commerce within the meaning of Chapter 93A.

c. Defendants carried out the conspiracy through unfair methods of competition and unfair or deceptive acts or practices. These methods, acts, and practices substantially affected commerce in the Commonwealth of Massachusetts and throughout the United States.

d. Defendants' conspiracy had, *inter alia*, the following effects: (i) price competition in the market for the sale of FX Instruments was restrained and decreased in Massachusetts and throughout the United States; (ii) prices for FX Instruments sold by Defendants and their co-conspirators were fixed, controlled, and maintained at artificial levels in Massachusetts and throughout the United States; and (iii) those who purchased FX Instruments directly or indirectly from Defendants and their co-conspirators were deprived of the benefits of unhampered commerce and free and open competition.

e. As a direct and proximate result of Defendants' unlawful conduct, the Massachusetts Plaintiff and members of the Massachusetts Class have been injured in their business and property in that they incurred overcharges on FX Instruments that they otherwise would not have incurred in the absence of Defendants' unlawful conduct.

f. As a result of Defendants' violations of Chapter 93A, the Massachusetts Plaintiff and members of the Massachusetts Class seek treble damages and their cost of suit, including reasonable attorney's fees, pursuant to Chapter 93A.

g. Each Defendant has been mailed or delivered a demand letter in accordance with Chapter 93A. More than thirty days has passed since such demand letters were mailed or delivered, and each Defendant has failed to make a reasonable settlement offer.

NINTH CLAIM FOR RELIEF
Violations of the Minnesota Antitrust Law of 1971,
Minn. Stat. §§ 325D.49 to 325D.66
(On Behalf of the Minnesota Plaintiff against All Defendants)

244.290. Plaintiffs incorporate each allegation above as if fully set forth herein.

245.291. Defendants have entered into an unlawful combination or conspiracy in unreasonable restraint of trade in violation of Minn. Stat. §§ 325D.49 to 325D.66 (the “Minnesota Antitrust Law of 1971”). The Minnesota Plaintiff, on behalf of the proposed statewide Minnesota Class of indirect FX purchasers, alleges as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants and their co-conspirators entered into and engaged in a combination or conspiracy, in violation of the Minnesota Antitrust Law of 1971, by engaging in the acts and practices detailed above. Each Defendant has acted in violation of the Minnesota Antitrust Law of 1971 to restrain competition and fix, control, and maintain the market prices for FX Instruments; to affect, fix, control, maintain, or limit the sale or supply of FX Instruments with the effect of affecting, fixing, controlling, or maintaining the market price for FX Instruments; and to unreasonably restrain trade and commerce in the market for FX Instruments.

b. Defendants’ unlawful combination or conspiracy consisted of a continuing agreement, understanding, and concerted action among Defendants and their co-conspirators. Defendants entered into and participated in the unlawful trust for purposes of fixing, controlling, and maintaining the prices charged for FX Instruments.

c. The combination and conspiracy alleged herein has had, *inter alia*, the following effects: (i) price competition in the market for the sale of FX Instruments was restrained and decreased in the State of Minnesota and throughout the United States; (ii) prices for FX Instruments sold by Defendants and their co-conspirators were affected, fixed, controlled, and

maintained at artificial levels in the State of Minnesota and throughout the United States; (iii) price quotations of bids on FX Instruments were fixed and controlled by Defendants; and (iii) those who purchased FX Instruments directly or indirectly from Defendants and their co-conspirators were deprived of the benefits of free and open competition.

d. As a direct and proximate result of Defendants' unlawful conduct, the Minnesota Plaintiff and members of the Minnesota Class have been injured in their business and property in that they incurred overcharges on FX Instruments that they otherwise would not have incurred in the absence of Defendants' unlawful conduct. As a result of Defendants' violations of the Minnesota Antitrust Law of 1971, the Minnesota Plaintiff and members of the Minnesota Class seek treble damages and their cost of suit, including reasonable attorneys' fees, pursuant to Minn. Stat. Ann. § 325D.57.

TENTH CLAIM FOR RELIEF
Violations of the North Carolina Unfair Trade Practice Act
N.C. Gen. Stat. § 75-1, *et seq.*
(On Behalf of the North Carolina Plaintiffs against All Defendants)

~~246.~~292. Plaintiffs incorporate each allegation above as if fully set forth herein.

~~247.~~293. Defendants have entered into an unlawful conspiracy in restraint of trade or commerce in violation of N.C. Gen. Stat. § 75-1, *et seq.* (the "North Carolina Unfair Trade Practice Act"). The North Carolina Plaintiffs, on behalf of the proposed statewide North Carolina Class of indirect FX purchasers, allege as follows:

a. Beginning at least as early as December 1, 2007, and continuing throughout the Class Period, Defendants and their co-conspirators entered into and engaged in a combination or conspiracy, in violation of the North Carolina Unfair Trade Practice Act, by engaging in the acts and practices detailed above. Each Defendant knowingly entered the conspiracy and acted in violation of the North Carolina Unfair Trade Practice Act to restrain competition and fix, control,

and maintain prices for FX Instruments and to unreasonably restrain trade and commerce in the market for FX Instruments.

b. Defendants' unlawful combination or conspiracy consisted of a continuing agreement, understanding, and concerted action among Defendants and their co-conspirators. Defendants willfully entered into and participated in the unlawful trust for purposes of fixing, controlling, and maintaining the prices charged for FX Instruments.

c. Defendants carried out the conspiracy through unfair methods of competition and unfair or deceptive acts or practices. These methods, acts, and practices substantially affected commerce in the State of North Carolina and throughout the United States.

d. The combination and conspiracy alleged herein has had, *inter alia*, the following effects: (i) price competition in the market for the sale of FX Instruments was restrained and decreased in North Carolina and throughout the United States; (ii) prices for FX Instruments sold by Defendants and their co-conspirators were fixed, controlled, and maintained at artificial levels in North Carolina and throughout the United States; and (iii) those who purchased FX Instruments directly or indirectly from Defendants and their co-conspirators were deprived of the benefits of unhampered commerce and free and open competition.

e. Defendants' conspiracy in restraint of trade violates the principles of North Carolina common law, in further violation of the North Carolina Unfair Trade Practice Act.

f. Defendants' conspiracy was continuous throughout at least the Class Period.

g. As a direct and proximate result of Defendants' unlawful conduct, the North Carolina Plaintiffs and members of the North Carolina Class have been injured in their business

and property in that they incurred overcharges on FX Instruments that they otherwise would not have incurred in the absence of Defendants' unlawful conduct.

h. As a result of Defendants' violations of the North Carolina Unfair Trade Practice Act, the North Carolina Plaintiffs and members of the North Carolina Class seek treble damages, plus reasonable attorney's fees and court costs, pursuant to N.C. Gen. Stat. § 75-16.

REQUESTS FOR RELIEF

Plaintiffs respectfully request the following relief:

A. That the Court determine that the claims alleged herein are suitable for class treatment and certify the proposed Classes pursuant to Federal Rule of Civil Procedure 23;

B. That the Court appoint Plaintiffs as the representatives of the Classes;

C. That Plaintiffs' counsel be appointed as counsel for the Classes;

D. That the Court award the New York Plaintiff and the New York Class damages in amounts according to proof against Defendants for Defendants' violations of New York state antitrust law, trebled;

E. That the Court award the Arizona Plaintiff and the Arizona Class damages in an amount according to proof against Defendants for Defendants' violations of Arizona state antitrust law, trebled;

F. That the Court award the California Plaintiffs and the California Class damages in an amount according to proof against Defendants for Defendants' violations of California state consumer protection and antitrust laws, trebled;

G. That the Court award the Florida Plaintiffs and the Florida Class damages in an amount according to proof against Defendants for Defendants' violations of Florida state consumer protection law;

H. That the Court award the Illinois Plaintiff and the Illinois Class damages in an

amount according to proof against Defendants for Defendants' violations of Illinois state antitrust law, trebled;

I. That the Court award the Massachusetts Plaintiff and the Massachusetts Class damages in an amount according to proof against Defendants for Defendants' violations of Massachusetts state consumer protection law, trebled;

J. That the Court award the Minnesota Plaintiff and the Minnesota Class damages in an amount according to proof against Defendants for Defendants' violations of Minnesota state antitrust law, trebled;

K. That the Court award the North Carolina Plaintiffs and the North Carolina Class damages in an amount according to proof against Defendants for Defendants' violations of North Carolina state antitrust law, trebled;

L. That Defendants be enjoined from engaging in further unlawful conduct;

M. That Plaintiffs and the Classes be awarded their costs of suit, including reasonable attorneys' fees; and

N. That Plaintiffs and the Classes be awarded pre- and post-judgment interest on all sums awarded, and other relief as the Court deems necessary and justified.

DEMAND FOR JURY TRIAL

Pursuant to Federal Rule of Civil Procedure 38(b), Plaintiffs request a trial by jury of all claims alleged herein so triable.

Dated: ~~June 30, 2017~~ April 5, 2018

Respectfully submitted,

/s/ Michael Dell'Angelo

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